U.S. Department of the Interior
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Wildcat Exploration Project

Environmental Assessment **DOI-BLM-NV-W010-2024-0017-EA**

U.S. Department of the Interior
Bureau of Land Management
Winnemucca District
Humboldt River Field Office
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TABLE OF CONTENTS

List of Tables

List of Figures

List of Appendices

Acronyms and Abbreviations

afy	Acre Feet per Year
AML	Abandoned Mine Land
amsl	Above Mean Sea Level
APE	Area of Potential Effects
ARMPA	Approved Resource Management Plan Amendment
AUM	Animal Unit Month
BBCS	Bird and Bat Conservation Strategy
BG	Block Group
BGEPA	Bald and Gold Eagle Protection Act
BLM	Bureau of Land Management

BMP	Best Management Practice
BMRR	Bureau of Mining Regulation and Reclamation
CCS	Conservation Credit System
CESA	Cumulative Effects Study Area
CFR	Code of Federal Regulations
DOI	Department of the Interior
EA	Environmental Assessment
EPM	Environmental Protection Measure
ESA	Endangered Species Act of 1973
ESD	Ecological Site Description
FEMA	Federal Emergency Management Agency
FLPMA	Federal Land Policy Management Act of 1976
GHMA	General Habitat Management Area
HMA	Herd Management Area
HPTP	Historic Properties Treatment Plan
HRFO	Humboldt River Field Office
I-80	Interstate 80
IDT	Interdisciplinary Team
IM	Instruction Memorandum
MBTA	Migratory Bird Treaty Act of 1918
Millennial	Millennial NV LLC
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
N	North
NAC	Nevada Administrative Code
NDEP	Nevada Division of Environmental Protection
NDOW	Nevada Department of Wildlife
NDWR	Nevada Department of Water Resources
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act of 1966
NOI	Notices of Intent
NRCS	Natural Resource Conservation Service

NRHP	National Register of Historic Places
NRS	Nevada Revised Statutes
OHMA	Other Habitat Management Area
OHV	Off-highway Vehicle
PHMA	Priority Habitat Management Area
Plan	Plan of Operations
PMU	Priority Management Unit
Project	Wildcat Exploration Project
R	Range
RFFA	Reasonably Foreseeable Future Action
RMP	Resource Management Plan
ROW	Right-of-way
SAD	Surface Area Disturbance
SER	Supplemental Environmental Report
SETT	Sagebrush Ecosystem Technical Team
SHPO	State Historic Preservation Office
SIR	Supplemental Information Report
SMRA	Special Recreation Management Areas
SPCC	Spill Response and Contingency Plan
SR	State Route
T	Township
TBD	To Be Determined
USC	United States Code
US	United States
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
VRM	Visual Resource Management
WDO	Winnemucca District Office
WMP	Weed Management Plan

CHAPTER 1. INTRODUCTION

1.1. Background

The Bureau of Land Management (BLM) Winnemucca District, Humboldt River Field Office (HRFO) has prepared this Final Environmental Assessment (EA). This EA is pursuant to the National Environmental Policy Act of 1969 as amended (NEPA) and BLM policy for implementing NEPA in the BLM NEPA Handbook H-1790-1 (BLM 2008).

In December 2022, Millennial NV LLC (Millennial) submitted a Plan of Operations (Plan) (NVNV106276154) and Nevada Reclamation Permit Application for the proposed Wildcat Exploration Project (Project) to the BLM HRFO. Following review by the BLM and consultation between BLM and Millennial, a revised Plan was submitted in February 2023 (Millennial 2023a). The Plan was submitted to comply with Title 43 Code of Federal Regulations (CFR), subpart 3809 (43 CFR 3809.401 et seq., as amended), State of Nevada regulations governing the reclamation of mined lands (Nevada Administrative Code [NAC] 519A.010-635).

The 43 CFR 3809 regulations require that the BLM fulfill its obligation under the NEPA by analyzing and disclosing the potential environmental impacts of the Project. Executive Order (EO) 14154, Unleashing American Energy (January 20, 2025), and a Presidential Memorandum, Ending Illegal Discrimination and Restoring Merit-Based Opportunity (January 21, 2025), require the Department of the Interior (DOI) to strictly adhere to NEPA, 42 United States Code (USC) 4321 et seq. Further, such Order and Memorandum repealed EO 12898 (February 11, 1994) and EO 14096 (April 21, 2023). Because EOs 12898 and 14096 have been repealed, complying with such Orders is a legal impossibility. The BLM verifies that it has complied with the requirements of NEPA, including the DOI's regulations and procedures implementing NEPA at 43 CFR Part 46 and Part 516 of the DOI Manual, consistent with the President's January 2025 Order and Memorandum.

The Project is located in Pershing County, Nevada (**Figure 1-1**) on privately held patented claims and unpatented lode claims on public lands that are administered by the BLM HRFO. Note that all figures referenced in this document are included in **Appendix A**. Exploration and mining activities have occurred in the Project area since the discovery of gold in 1863. Several companies had active gold mining and mineral exploration programs in this area and operated between the early 1900s through the early 2000s. Mineral exploration and underground and surface mining development and operations occurred during this timeframe. These companies included Troughs Monarch Mines Company which conducted surface and underground operations between 1906 and 1912; Monex Explorations which intermittently worked the Tag mine in 1980; Homestake Mining Company which conducted exploration activities from 1982 through 1990; LAC Minerals continued exploration in 1992; and Vista Gold Corp, which was acquired by Allied Nevada, which acquired the property from 2003 through 2015. Millennial acquired the lode claims and property in 2021.

Millennial proposes to conduct mineral exploration activities on 400.00 acres of land. Approximately 386.59 acres would be new surface disturbance, of which 364.64 acres would occur on public lands administered by the BLM, and the remaining 21.95 acres would occur on private land. The proposed surface disturbances would be in addition to the currently authorized 13.41 acres of existing, Notice-acknowledged disturbances for a total surface disturbance in the Project area of 400.00 acres.

Proposed disturbances would be conducted in a phased manner. The activities would occur within a 12,432-acre Project area shown in **Figure 1-2**. The Project area encompasses all or parts of Township (T) 32 North (N), Range (R) 29 East, Sections 32 through 35; T31N, R29E, Sections 2 through 11, 16 through 21, and 26 through 35; and T30N, R29E, Section 5, Mount Diablo Baseline and Meridian.

1.2. Purpose and Need

The BLM's purpose for the federal action is to respond to the Proponent's application to conduct mineral exploration activities on BLM-administered public lands in Pershing County, Nevada.

The BLM's need for the action is established by the BLM's responsibility under its 2008 Energy and Mineral Policy, Section 302 of the Federal Land Policy and Management Act of 1976 (FLPMA), and BLM Surface Management Regulations at 43 CFR 3809. Specifically, it is to respond to a plan of operations and to take any action necessary to prevent unnecessary or undue degradation of the lands.

Millennial's purpose for the project is to assess the potential for mineral development in the Project area through mineral exploration and baseline data collection activities.

1.3. Decision to be Made

The BLM's decision based on the EA would include any of the following: 1) approve the Plan with no modifications; 2) approve the Plan with additional mitigation needed to prevent unnecessary or undue degradation of public lands and reduce or eliminate the effects of the Proposed Action or action alternatives; or 3) deny approval of the Plan and not authorize the Proposed Action if the BLM determines that it does not comply with the 43 CFR 3809 regulations and the FLPMA mandate to prevent unnecessary or undue degradation.

1.4. Relationship to Statutes and Regulations

The Proposed Action and alternatives are consistent with federal laws and regulations, state and local government laws and regulations, and other plans, programs, and policies to the extent practicable within federal law, regulation, and policy, including but not limited to:

- NEPA (42 USC 4321 et seq);
- DOI NEPA Regulations (43 CFR part 46);
- FLPMA (43 USC 1701 et seq);
- General Mining Law of 1872;
- Mining and Mineral Policy Act of 1970 (30 USC 21a);
- Locatable Minerals Surface Management Regulations (43 CFR 3809); and
- Use and Occupancy under the Mining Laws (43 CFR 3715).

The National Historic Preservation Act of 1966 (NHPA) Section 106 consultation required under 36 CFR 800 will be completed concurrently with the NEPA process.

The Proposed Action and Alternatives would be in conformance with all other applicable state and local land use regulations, laws, and policies. The Nevada Division of Environmental Protection (NDEP), Bureau of Mining Regulation and Reclamation (BMRR) regulates the operations of all existing and new mining operations under the authority of the Nevada Revised Statutes (NRS) 445A.300-NRS 445A.730 and the NAC 445A.350-NAC 445A.447. The BMRR is composed of the regulation, reclamation, and closure branches. The regulation and closure branches regulate mining under the authority of the NRS 445A.300-445A.730 and the NAC 445A.350-445A.447 (water quality regulations). The regulations recognize that the extraction of mineral materials and the reclamation of land affected by such extraction are necessary and proper. The BMRR reclamation branch administers land reclamation in accordance with NRS 519A.010-519A.290 and NAC 519.010-519A.415.

In addition to this EA, implementing the Proposed Action would require authorizing actions from other federal, state, and local agencies with jurisdiction over certain aspects of the proposed Project. **Table 1-1** lists the major permits or approvals that would be obtained or otherwise addressed and the regulatory agencies responsible for issuing and managing such permits and approvals. Millennial is responsible for amending existing permits and applying for and acquiring additional permits and approvals, as needed.

Table 1-1. Permits and Approvals

Agency	Permit or Approval
US DOI BLM, Winnemucca District Office, in Winnemucca, Nevada	• Wildcat Exploration Plan of Operations Casefile NVNV106276154 • Notice NVNV105848668 • Notice NVNV105861656 • Notice NVNV105863088
United States Fish and Wildlife Service (USFWS)	• Compliance with the Endangered Species Act of 1973 (ESA); 16 USC 1531 et seq. • Compliance with the Bald and Gold Eagle Protection Act of 19470, as amended (BGEPA); 16 USC 668 • Compliance with the Migratory Bird Treaty Act of 1918, as amended (MBTA); 16 USC 703-712
US DOI BLM, and the State of Nevada State Historic Preservation Office	• Compliance with Section 106 National Historic Preservation Act; 18 USC Section 841-848; 27 CFR 181
NDEP Bureau of Air Pollution Control	• Class II Surface Area Disturbance (SAD) Permit To Be Determined (TBD)
NDEP Bureau of Mining Regulation and Reclamation	• Reclamation Permit TBD
NDEP Bureau of Water Pollution Control	• Mining Stormwater Permit TBD • Water Supply Well Permit TBD
Nevada Division of Water Resources	• Water Right Permits #92128, #92502 and #92262

Agency	Permit or Approval
Nevada State Business License	• Business License #NV20201930878
Pershing County Business License	• Business License TBD

1.5. Conformance with Land Use Plans

The Proposed Action and Alternatives are subject to and have been reviewed for conformance with federal, state, and local land use plans and are subject to conformance with other laws, regulations, plans, permits, and policies to the extent practicable within federal law, regulation, and policy.

1.5.1. Winnemucca Resource Management Plan

The Proposed Action, described below, would be in conformance with the BLM Winnemucca District Resource Management Plan (RMP) (BLM 2015a). The record of decision for the Winnemucca RMP includes the following goal and associated objectives for Mineral Resources: Leasable, Locatable, and Saleable:

- Goal: Make federal mineral resources available to meet domestic needs. Encourage responsible development of economically sound and stable domestic minerals and energy production, while assuring appropriate return to the public. Ensure long-term health and diversity of the public lands by minimizing impacts on other resources, returning lands disturbed to productive uses, and preventing unnecessary or undue degradation.
- Objective MR 1: Return lands disturbed by mineral operations that are stable, safe, productive, and visually compatible and ensure the quality of the environment in accordance with FLPMA and other applicable laws, regulations, and policies. Prevent undue or unnecessary degradation of public lands. An exception, in whole or in part, may be granted if, at the time of closure, a viable plan exists for productive continued economic use of the site (see Sustainable Development Goals and Objectives).
    - Action MR 1.5: Public lands will remain open and available for mineral exploration and development subject to the provisions of FLPMA Section 204.
- Objective MR 8: Allow appropriate occupancy (meeting the requirements of 43 CFR 3715 or other applicable regulations) on mineral development sites, while protecting resources and maintaining public access.
- Objective MR 9: Manage locatable mineral operations to provide for the mineral needs of the nation while assuring compatibility with and protection of other resources and uses.

1.5.2. Nevada and Northeastern California Greater Sage-Grouse Approved RMP Amendment

The BLM in Nevada and California manages Greater sage-grouse (*Centrocercus urophasianus*) habitat as part of its multiple-use mandate in 11 RMPs across Nevada and northeastern California. In 2015, the RMPs across Nevada and northeastern California were amended by the

Nevada and Northeastern California Greater Sage-Grouse Approved Resource Management Plan Amendment (ARMPA) to include specific management allocations, objectives, and management decisions within Greater sage-grouse Habitat Management Areas to conserve, enhance, and restore Greater sage-grouse habitat. In May 2022, a maintenance action approved updating the Habitat Management Area Map to be adopted in the 2015 ARMPA, which is now referred to as the 2021 map. The Proposed Action is consistent with all versions of the ARMPA including the approved 2015 ARMPA (BLM 2015b) and subsequent updates (BLM 2020a, BLM 2020b).

1.5.3. Pershing County Master Plan

The Pershing County Master Plan, updated in 2012 by the County (Pershing County 2012), reflects the broad spectrum of community values and aspirations for the County's future, which includes retaining a rural atmosphere, and access by residents to diverse, stable employment opportunities, varied recreational activities, educational choices, and an active, competitive market for goods and services. The goals and policies identified for mineral extraction and mining in the County are the following:

- Goal C.7.0: Develop and responsibly conserve Pershing County's significant mineral resources.
    - Policy C.7.1: Consider the impact of new development on the extraction of mineral resources in land use.
    - Policy C.7.2: Review proposed mining activities (mineral extraction, sand and gravel pits, etc.) to ensure that they are compatible with existing and planned development.

1.6. Scoping and Issues

A BLM interdisciplinary team (IDT) was assigned to review this Project by the Winnemucca District NEPA Committee. Resource specialists in the fields of cultural resources, paleontology, Native American religious concerns, lands and realty, recreation, visual resources, rangeland management, air quality, minerals, hazardous waste, fire management, invasive species, vegetation, soils, wildlife (including threatened, endangered, and special status species), hydrogeology, wetlands, and riparian areas were assigned to review the project. The IDT met on December 8, 2022, and identified possible effects from and issues related to the Project.

The BLM conducted public scoping from March 1 through March 30, 2023. Public involvement is a vital part of the NEPA process. The BLM conducted this public comment period to identify issues to be addressed and to help determine the appropriate scope of the NEPA analysis. The BLM NEPA Handbook requires the BLM to identify significant issues for analysis and focus only on those issues. For this project, the issues identified by the IDT and carried forward for analysis include those elements of Alternative A, the Proposed Action that would cause or have the potential to cause significant environmental effects.

Issues identified during scoping that are relevant to the NEPA analysis were documented in the baseline needs assessment form and analyses developed in Supplemental Environmental Resource (SER) reports for each resource (**Appendix B**). Resources that are determined to be present and potentially affected are discussed in detail in this EA.

CHAPTER 2. ALTERNATIVES

This chapter describes the alternatives that will be analyzed in Chapter 3, as well as describes alternatives that were considered and why they were eliminated from detailed analysis.

2.1. Alternative A – Proposed Action

Millennial proposes to assess mineral development potential on approximately 400.00 acres of land located in the Proposed Action boundary (Project area) as shown in **Figure 1-2**. The proposed activities would result in 364.64 acres of new surface disturbance on public lands administered by the BLM, and the remaining 21.95 acres of new surface disturbance would occur on private land. The proposed surface disturbances would be in addition to the maximum 13.41 acres of existing, Notice-acknowledged disturbances, for a total surface disturbance in the Project area of 400.00 acres. Disturbances would be conducted in a phased manner. Proposed activities would include:

- Construction of drill pads and drill roads (including overland travel);
- Access road maintenance, including but not limited to snow removal, smoothing ruts, filling holes with fill material, grading, and maintaining drainage ditches and waterbars;
- Access road improvements including culvert installations as needed and road widening;
- Drilling (core, sonic, auger, or reverse circulation);
- Monitoring well and piezometer installations;
- Production well installation for water supply, and water supply piping;
- Geochemical and geotechnical data collection, including trenching, test-pitting, and borehole drilling; and,
- Development of laydown yards; and
- Reclamation of all surface disturbances following completion of exploration and baseline activities.

Proposed activities would occur within a Proposed Action boundary that is approximately 12,432 acres, consisting of approximately 67 acres of private land owned by Millennial and approximately 12,365 acres of public lands administered by the BLM HRFO.

Surface disturbances would be reclaimed after the completion of all Project activities and upon a determination that the disturbances would be no longer needed for Project-related activities. Reclamation of disturbed areas resulting from the proposed Project would be completed in accordance with BLM and NDEP regulations, and in compliance with 43 CFR 3809.420 and NAC 519A to prevent unnecessary or undue degradation of public lands.

The SIR for the Proposed Action (BLM 2025a) provides further details about the proposed operations, monitoring, and reclamation, including workforce and schedule, and applicant-committed environmental protection measures (EPMs). The SIR can be found in **Appendix B** of this EA.

2.2. Alternative B – No Action Alternative

In accordance with BLM NEPA Handbook H-1790-1, this EA evaluates a No Action Alternative, which provides a useful baseline for comparison of environmental effects (including cumulative effects) and demonstrates the consequences of not meeting the need for the action. Under the No Action Alternative, the Project would not be developed and the proposed activities in the Proposed Action boundary would not occur. Existing acknowledged disturbances up to 11.46 acres on public land could still occur under notices NVNV105848668, NVNV105861656, and NVNV105863088. In addition, a total of 1.95 acres of surface disturbance has been created on patented claims owned by Millennial for a total of 13.41 acres of constructed or acknowledged disturbance. All three Notices are within the Proposed Action boundary. Millennial would reclaim the areas affected by past and present surface-disturbing activities within the Project area, excluding areas disturbed by previous operators that were inactive on or before January 1, 1981, as described in the Plan.

2.3. Alternatives Considered but Eliminated from Detailed Analysis

In accordance with NEPA, the BLM considered several alternatives but eliminated them from detailed study and now provides a brief rationale for eliminating them. To be considered for detailed analysis in this EA, potential alternatives had to meet the Applicant's purpose and need for the Proposed Action and be technically and economically feasible. Alternatives were also reviewed to determine if they were environmentally reasonable or provided an environmental benefit over the Proposed Action. Input from both internal and external scoping helped to inform and develop the considered alternatives.

Potential alternatives to the Proposed Action are limited by the geologic resources. Alternatives considered but eliminated from the detailed analysis included consideration of alternative placements of proposed laydown yards. However, these features of the Proposed Action are within areas that have been previously disturbed or are currently disturbed, which already minimize impacts to vegetation, and avoid impacts on water and cultural resources. Impacts to other resources would not be differently affected by alternative laydown yard placement. Therefore, these alternatives were eliminated from further detailed analysis.

CHAPTER 3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS

This chapter describes the existing conditions of resources that are present and have the potential to be affected by the activities of Alternatives described in Chapter 2. To comply with NEPA, the BLM is required to address specific elements of the environment identified in applicable statutes, regulations, or by Executive Order. **Table 3-1** lists the resources covered by supplemental authorities or those resources considered additional affected resources. Each resource was reviewed to determine the potential effects of the Project (i.e., not present, present, and not affected, or present and affected). Detailed analyses of all resources that were determined to be present are provided in the SERs for that resource (BLM 2025b through BLM 2025r; **Appendix B**). Resources identified as Present May be Affected in **Table 3-1** are described in this chapter.

Table 3-1. Supplemental Authorities and Other Resources of the Human Environment

Supplemental Authority[1] and Other Resources	Determination[2]	Rationale
Air Quality	Present / Not Affected	Project activities would result in negligible impacts to air quality from vehicle emissions and fugitive dust generated by the Proposed Action. The SER for Air Quality describes the affected environment and environmental consequences for this resource.
Area of Critical Environmental Concern	Not Present	Would not be affected. This resource is not present in or near the Project area.
Cultural Resources	Present / May be Affected	See Section 3.2.1.
Farmlands Prime or Unique	Not Present	Would not be affected. This resource is not present in or near the Project area.
Floodplains	Not Present	There are no 100-year Federal Emergency Management Agency (FEMA) Floodplains in or near the Project area. The Applicant would avoid drilling in drainages, springs, and areas prone to flooding.
Forests and Rangelands (Healthy Forests Restoration Act only)	Not Present	No Hazardous Fuel Reduction Areas occur in the Project area.
Geology and Minerals	Present / Not Affected	The Project would only extract a minuscule amount of material from drill holes and would not affect potential mineral resources. The amount of material extracted would be unmeasurable as compared to the overall ore deposits in Pershing County. The SER for Geology and Minerals describes the affected environment and impacts for these resources.
Hazardous Material/Solid Waste	Present / May be Affected	See Section 3.2.4.

Supplemental Authority[1] and Other Resources	Determination[2]	Rationale
Human Health and Safety	Present / Not Affected	The Project would implement Best Management Practices (BMPs) and EPMs for Hazardous Material/Solid Waste, Public Safety and Access, Fire Prevention and Control, and Wildland Fire Protection to prevent human health and safety concerns. The SER for Hazardous Materials and Solid Waste describes the affected environment and impacts on human health from material handling and wastes.
Land Use and Realty	Present / May be Affected	The Project is consistent with existing land use and management plans for the County and Winnemucca RMP. See Section 3.2.7 for discussion of land use impacts.
Migratory Birds and Raptors	Present / May be Affected	See Section 3.2.10.
Native American Concerns	Present / May be Affected	See Section 3.2.2.
Noise	Present / May be Affected	The SER for noise describes the affected environment and potential changes in noise levels. See Sections 3.2.10 and 3.2.11 pertaining to noise effects on animals, and Section 3.2.5 for noise effects on recreation resources.
Noxious Weeds/Invasive Non-native Species	Present / May be Affected	See Section 3.2.8.
Paleontological Resources	Present / Not Affected	The potential fossil yield classification in the majority of the Project area is low or moderate. In a limited area where there is a high potential, these areas are associated with the metasedimentary units that occur in the lower stratigraphy of Wildcat Canyon and Stonehouse Canyon. Proposed drilling would be located stratigraphically above the metasedimentary units, in areas that are associated with the granodiorite, rhyolites, and post-mineralization basalts that comprise the hilltops. These activities would occur in low fossil potential areas of the Project.

Supplemental Authority[1] and Other Resources	Determination[2]	Rationale
Grazing Management / Range Resources	Present / May be Affected	See Section 3.2.3.
Recreation	Present / May be Affected	See Section 3.2.5.
Riparian/Wetlands	Present / Not Affected	Would not be affected since these areas would be avoided. The SER for Water and Wetlands describes the affected environment and effects on this resource.
Socioeconomic Values	Present / Not Affected	The Project would not result in noticeable changes to the area's economy and employment, housing market, community facilities and services, education, public finance, or social conditions, and would have negligible to no economic impact on livestock management. The SER for Socioeconomics describes the affected environment and effects on this resource.
Soil Resources	Present / May be Affected	See Section 3.2.6.
Special Status Species	Present / May be Affected	See Section 3.2.11.
Threatened, Endangered Species	Not Present	Would not be affected. The resource is not present in or near the Project area. Effects on the proposed to be listed butterfly species are addressed in Section 3.2.11.
Transportation and Access	Present / May be Affected	See Section 3.2.7.
Vegetation Resources	Present / May be Affected	See Section 3.2.8.
Visual Resources	Present / May be Affected	See Section 3.2.13.
Water Quality and Quantity	Present / May be Affected	See Section 3.2.9.
Wild and Scenic Rivers	Not Present	Would not be affected. The resource is not present in or near the Project area.

Supplemental Authority[1] and Other Resources	Determination[2]	Rationale
Wild Horses and Burros	Present / May be Affected	See Section 3.2.12.
Lands with Wilderness Characteristics	Not Present	Would not be affected. Lands with Wilderness Characteristics are not present in the Project area.
Wilderness Areas	Not Present	Would not be affected. Wilderness Areas are not present in the Project area.
Wilderness Study Areas	Not Present	Would not be affected. Wilderness Study Areas are not present in the Project area.
Wildlife Resources	Present / May be Affected	See Section 3.2.10.

Notes:

1 See H-1790-1 (January 2008) Appendix 1 Supplemental Authorities to be Considered.

2 Supplemental Authorities determined to be Not Present or Present/Not Affected do not need to be carried forward for analysis or discussed further in the document. Supplemental Authorities determined to be Present/May be Affected must be carried forward for analysis in the document.

3.1. Affected Environment

The affected environment is described below for each resource that is present and may be affected (see **Table 3-1**). Note that additional details, maps, and tables for each resource's affected environment and environmental consequences are provided in the SER for that resource (BLM 2025b through BLM 2025r; **Appendix B**).

3.1.1. Cultural Resources

The area of analysis for impacts on cultural resources is referred to as the area of potential effects (APE) and is defined as "the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties if any such properties exist." For the Project, the APE is the area within the Proposed Action boundary. All effects, both direct and indirect, will be contained within the APE.

The majority of the analysis area lies within the boundary of the Farrell Mining District, which is sometimes included in the Seven Troughs Mining District, which lies immediately to the southwest of the APE. There are 903 archaeological sites and 15 architectural resources identified within the APE. Of the 903 archaeological resources, 77 are eligible for the National Register of Historic Places (NRHP), and 826 are not eligible. Two of the architectural resources (the Wildcat headframe and Peter Marker's ranch) are eligible for the NRHP, and the remaining 13 resources are not eligible.

3.1.2. Native American Traditional Values

The area of analysis for Native American traditional values is the Proposed Action boundary. The analysis area lies within the vast traditional territory of the Northern Paiute, which includes parts of present-day California, Oregon, and Nevada. Formal government-to-government consultation has occurred and is ongoing for the following Tribes for the Proposed Action: Fort McDermitt Paiute-Shoshone Tribe, Fallon Paiute-Shoshone Tribe, Lovelock Paiute Tribe, Pyramid Lake Paiute Tribe, Reno-Sparks Indian Colony, Summit Lake Paiute Tribe, Winnemucca Indian Colony.

3.1.3. Grazing Management / Range Resources

The area of analysis for Project-related grazing impacts encompasses the Proposed Action boundary, which is contained within the Blue Wing-Seven Troughs Grazing Allotment and the Majuba Grazing Allotment. Both allotments consist of BLM-managed lands, private lands, and other federal lands that are managed separately.

The Blue Wing-Seven Troughs Grazing Allotment has a current average stocking rate of 37 acres per animal unit month (AUM) based on the total number of AUMs in the allotment. An AUM is the amount of forage required to sustain a cow/calf pair, one horse, or five sheep for one month. The Majuba Grazing Allotment has a current average stocking rate of 56 acres per AUM. Four permittees utilize the Blue Wing-Seven Troughs Grazing Allotment, and three permittees utilize the Majuba Grazing Allotment. Both allotments are in the Improve category.

3.1.4. Hazardous Materials and Solid Waste

The area of analysis for hazardous materials and solid waste is the Proposed Action boundary and the main transportation and access roads from which materials would be transported. These main access routes include Interstate 80 (I-80) from either Reno or Winnemucca, exiting onto Main Street Lovelock at exit 106 and continuing along State Route [SR] 398, then west on Pitt Road (SR 399), then north on Seven Troughs Road to the Project area.

Hazardous materials used by the Proposed Action would include petroleum products that include diesel fuel, gasoline, and lubricating oils, and grease. Small quantities of these substances and wastes generated by the Project would be transported and temporarily stored on-site per federal, state, and local regulations. Non-hazardous solid wastes generated by the Project would include wastepaper, scrap metal, wood, and other domestic trash, which would be disposed of off-site in an approved landfill regularly.

3.1.5. Recreation

The area of analysis for recreation includes the Proposed Action boundary plus a five-mile buffer. Recreational uses within the analysis area include dispersed recreation, including motorcycle, off-highway vehicle (OHV) travel, hunting, camping, hiking, wild horse and burro viewing, and photography. The numerous unimproved roads within the analysis area are the primary means of accessing the dispersed recreational opportunities. There are no developed or designated recreation facilities, trails, parks, or sites located in the analysis area.

The analysis area is in Zone 5 of the Nightingale Special Recreation Management Area (SRMA). Management objectives associated with Zone 5 are to provide opportunities for sustainable motorized, mechanized, and nonmechanized access to backcountry settings and to take

advantage of inherent opportunities for interpretation and environmental, heritage, and outdoor ethics education.

The analysis area is within the Game Management Unit 4, Hunt Units 41 and 42, managed by the Nevada Department of Wildlife (NDOW), in which hunting for mule deer (*Odocoileus hemionus*) and pronghorn antelope (*Antilocapra americana*) is permitted. Hunting seasons for these species range from late summer to fall for archery, fall for muzzleloader, and fall through winter for modern rifle hunting. Upland birds, small-game species, and general varmints can also legally be taken in the analysis area.

3.1.6. Soil

The area of analysis for soil resources is the Proposed Action boundary. There are eight soil map units in the analysis area. These soil units are identified as well-drained and range from shallow (20 inches or less to bedrock) in the mountains to deep (more than 80 inches to bedrock) in the flats and alluvial fans. Surface soil textures are generally loams mixed with gravel and cobbles. Slopes range from two to 50 percent. Due to the climate characteristics of the region, topsoil is generally thin and contains little organic matter. None of the soil map units in the analysis area are prime farmland or contain hydric soil inclusions as mapped by the Natural Resource Conservation Service (NRCS). A wetland delineation for the Project observed some limited areas of hydric soils associated with small wetlands and springs in the Project area (BLM 2025p). These areas will be avoided.

When construction of roads, pads, and other surface disturbances commence for the Proposed Action, topsoil removed from these areas would be stored as berms and push piles to use as reclamation growth media. The majority of soils in the analysis area have a moderate potential for degradation and a medium susceptibility to compaction. Based on NRCS data, soils in the analysis area have a moderate to low susceptibility to wind erosion and a low to moderate susceptibility to sheet and rill erosion by water. NRCS has ranked the use of soils in the analysis area for reclamation as poor, meaning that revegetation and stabilization can be difficult and costly.

3.1.7. Land Use, Realty, Access, and Transportation

The area of analysis encompasses approximately 12,366.2 acres of public lands administered by the BLM HRFO within Pershing County, Nevada. There are also 65.7 acres of the analysis area under private ownership. The land uses within and adjacent to the analysis area include mining and mineral exploration, livestock grazing, recreation, and wildlife habitat. There are several range improvement exclosures in the Proposed Action boundary. Past mining has occurred within the analysis area periodically by numerous operators from the early 1900s through 2003.

Apart from surface management notices established by Millennial, there are no active BLM land use authorizations or rights-of-way (ROWs) within the analysis area. Transportation routes for the Proposed Action access include SR 398, SR 399, Seven Troughs Road, Rocky Canyon Road, and Stonehouse Canyon Road. These roads are maintained by Pershing County and are accessed from I-80. There are also other public access roads within and in the area not actively maintained by the counties, many of which are designated public roads through NRS 405.

3.1.8. Vegetation, Including Noxious Weeds

The area of analysis for vegetation, including noxious and invasive non-native species, is the Proposed Action boundary.

Vegetation communities in the analysis area consist of low sagebrush (*Artemisia arbuscula*), Wyoming big sagebrush (*Artemisia tridentata wyomingensis*), mixed sagebrush, mixed shrublands, juniper tree (*Juniperus osteosperma*) woodlands, and invasive species-dominated communities. There are also wetlands and riparian vegetation in the analysis area that are associated with seeps, springs, and intermittent stream channels. The wetland and riparian communities are described in detail in the SER for Aquatic Resources and Wetlands (BLM 2025p) and in the aquatic resources section of this chapter. Vegetation in the analysis area has been heavily affected by fires and prolonged drought. Vegetation community conditions were described using the NRCS state-and-transition ecological site description (ESD) model. Using this model as a framework, many vegetation communities have transitioned from their reference states to more degraded states such as Tree State, Shrub State, or Annual State.

Two species of noxious weeds were observed in the analysis area: salt cedar (*Tamarisk* sp.) and whitetop (*Cardaria draba*). Whitetop was widespread throughout the analysis area, concentrated along roadsides and mesic areas. Salt cedar was observed in two areas at the bottoms of wetted channels.

3.1.9. Water

The area of analysis for surface water and wetlands is the Proposed Action boundary. There are ephemeral and intermittent channels (36.48 linear miles), seeps/springs (22), and wetlands, including an impounded stock pond (31) in the analysis area. Other aquatic resources mapped during baseline studies included stock ponds and stock tanks (4) and wildlife guzzlers (1). Dry meadows (4) are also mapped in the analysis area. Most of the channels within the analysis area are ephemeral channels (29.74 linear miles) with minor intermittent (6.74 linear miles) channel reaches. Daylighting water was observed to occur along short, isolated stretches of these channels below points of seep/spring emergence. A total of 14.72 acres of wetlands were mapped within the analysis area. The majority of wetlands consist of sub-aerial seeps/springs and wet meadows that are seasonally saturated or flooded, dominated by herbaceous vegetation. All of the channels and wetlands are intrastate, isolated features with no connection to interstate or foreign commerce or connection to a water of the United States. None of the wetland or channel features in the analysis area are waters of the United States that would be regulated under Section 404 of the Clean Water Act or under Section 10 of the Rivers and Harbors Act (USACE 2023).

The area of analysis for groundwater resources is the Nevada Department of Water Resources (NDWR) hydrographic basins that overlap the Proposed Action boundary, which include the Granite Springs Valley hydrographic basin (Basin number 078) and Black Rock Desert hydrographic basin (Basin number 028). The Granite Springs Valley hydrographic basin is 967 square miles (618,880 acres) and is located in Pershing and Churchill counties. Committed groundwater uses in this basin include domestic, irrigation, mining, milling and dewatering, and stockwater. The perennial yield is 4,500 acre-feet per year (afy). The Black Rock Desert hydrographic basin is 2,172 square miles (1,390,080 acres) located in Humboldt, Pershing, and Washoe counties. Committed groundwater uses in this basin include irrigation, mining, milling, and dewatering, quasi-municipal, and stockwater. The perennial yield is 30,000 afy.

3.1.10. Wildlife, Including Migratory Birds

The area of analysis for general wildlife is the Proposed Action boundary. The area of analysis for big game is the Proposed Action boundary plus a four-mile buffer around this boundary. The area of analysis for raptors is the Proposed Action boundary plus a one-mile buffer around this boundary. Special status wildlife species are described in the next section.

3.1.10.1. *Avian Species, Including Migratory Birds and Raptors*

Forty-five species of birds were recorded in the analysis area during surveys in 2022. The greatest number of species and the highest bird counts during migratory bird surveys were recorded in an unburned big sagebrush community that is adjacent to a wetland and riparian system. Migratory bird counts were most abundant in June, as compared to March or April.

There were seven species of raptors observed in the Proposed Action boundary and one-mile buffer during surveys in 2022, including American kestrels (*Falco sparverius*), ferruginous hawks (*Buteo regalis*), golden eagles (*Aquila chrysaetos*), Northern harriers (*Circus hudsonius*), red-tailed hawks (*Buteo jamaicensis*), Swainson's hawks (*Buteo swainsoni*), and turkey vultures (*Cathartes aura*). Three golden eagle nests were observed within the Proposed Action boundary in 2022; one of these nests (11-A) was in-use. Within a one-mile buffer of the Proposed Action area, eight additional golden eagle nests were observed, and of these, one nest (nest #25) was in-use.

3.1.10.2. *Big Game*

The analysis area is within NDOW Game Management Unit 4, Hunt Units 41 and 42. Mule deer habitat includes crucial winter and year-round habitat. Pronghorn antelope habitat includes crucial summer, crucial winter, and year-round habitat. Pronghorn populations within Hunt Units 41 and 42 were estimated at 1,300 animals in 2023. Mule deer in Hunt Units 41 and 42 occur at very low densities, and population numbers of mule deer are not modeled or surveyed by NDOW.

3.1.10.3. *Other Wildlife*

Other wildlife observed or recorded in the Proposed Action area include American bullfrog (*Lithobates catesbeianus*), an introduced amphibian species, coyote (*Canis latrans*), black-tailed jackrabbit (*Lepus californicus*), yellow-bellied marmot (*Marmota flaviventris*), and several reptiles, including desert horned lizard (*Phrynosoma platyrhinos*), Great Basin collared lizard (*Crotaphytus bicinctores*), long-nosed leopard lizard (*Gambelia wislizenii*), and Western fence lizard (*Sceloporus occidentalis*).

3.1.11. Special Status Species

This section describes the affected environment of special status species that occur or have the potential to occur in the analysis area. The analysis area for special status birds, bats, insects, and plants is the Proposed Action boundary. The analysis area for cliff and tree-dwelling raptors is the Proposed Action boundary plus a one-mile buffer. The analysis area for Greater sage-grouse is the Proposed Action boundary plus a four-mile buffer. Information for general wildlife and plant species has been described in Sections 3.1.9 and 3.1.11 and is not reiterated here. Details regarding all BLM special status species and the ecology of species potentially present are

described in the SER for Wildlife (BLM 2025n) and the SER for Vegetation, Noxious Weeds, and Special Status Species (BLM 2025m).

3.1.11.1. *Greater Sage-Grouse*

The analysis area is within the Greater sage-grouse Majuba 3 Population Management Unit (PMU). Under the September 2015 ARMPA habitat mapping, approximately 1,581 acres of priority habitat management area (PHMA), approximately 2,350 acres of general habitat management area (GHMA), and approximately 2,367 acres of other habitat management area (OHMA) occur within the Proposed Action boundary. There are four Greater sage-grouse leks present within the Proposed Action boundary and six additional leks within four miles of the Proposed Action boundary. None of the leks were active during surveys in 2022.

3.1.11.2. *Other Special Status Bird and Raptor Species*

Of the migratory bird and raptor species observed in the analysis area, the following are BLM special status species: Swainson's hawk, ferruginous hawk, golden eagle, Brewer's sparrow (*Spizella breweri*), sagebrush sparrow (*Artemisiospiza nevadensis*), gray-crowned rosy finch (*Leucosticte tephrocotis*), and Loggerhead shrike (*Lanius ludovicianus*). Their ecology and habitats are described in the SER for Wildlife (BLM 2025n). Burrowing owl (*Athene cunicularia*) habitat occurs in the analysis area, but no active nests were observed.

3.1.11.3. *Special Status Bat Species*

Acoustic surveys for bats recorded calls for 12 species of bats, all of which are BLM special status species. The species recorded included: Pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), Big brown bat (*Eptesicus fuscus*), Hoary bat (*Lasiurus cinereus*), Silver-haired bat (*Lasionycteris noctivagans*), California myotis (*Myotis californicus*), Western small-footed myotis (*Myotis ciliolabrum*), Long-eared myotis (*Myotis evotis*), Little brown bat (*Myotis lucifugus*), Yuma myotis (*Myotis yumanensis*), Canyon bat (*Parastrellus hesperus*), and Mexican free-tailed bat (*Tadarida brasiliensis*).

Bat roosting habitat occurs in the analysis area. Roost habitat includes abandoned mine lands (AMLs), live and dead juniper and cottonwood trees, abandoned structures such as buildings, rock crevices, shelters associated with rock outcrops, talus, and boulders below outcrops. AMLs were surveyed for the presence of roosting bats. There were 15 AML features confirmed or inferred to be used by bats in the Proposed Action boundary for day or night roosts. Hibernating Townsend's big-eared bats were observed in one feature that was located outside, but near, the Proposed Action boundary.

3.1.11.4. *Special Status Insect Species*

BLM special status butterflies with the potential to occur in the analysis area include Rice's blue (*Euphilotes pallescens ricei*), Great Basin small blue (*Philotiella speciosa septentrionalis*), and Monarch butterflies (*Danaus plexippus*). The monarch butterfly is also proposed for listing as threatened under the ESA. These species were not observed in the analysis area. However, host plants used by these species, which include buckwheat (*Eriogonum* sp.) or milkweed (*Asclepias* sp.), occur in the analysis area.

3.1.11.5. *Special Status Plant Species*

No special status plant species were observed in the analysis area. Special status plants with the potential to occur in the analysis area include West Humboldt buckwheat (*Eriogonum anemophilum*; also known as Windloving buckwheat); Lahontan beardtongue (*Penstemon palmeri var. macranthus*); Toiyabe springparsley (*Cymopterus goodrichii;* also known as Goodrich biscuitroot); dainty moonwort (*Botrychium crenulatum*) and Nye County smelowskia (*Nevada holmgrenii*, also known as Holmgren smelowskia).

3.1.12. Wild Horses and Wild Burros

The area of analysis for wild horses and wild burros is the Proposed Action boundary and access roads to the area, which include Seven Troughs Road and Stone Canyon Road. The Proposed Action is within the Seven Troughs Wild Horse Herd Management Area (HMA). The Seven Troughs HMA consists of 131,413 acres of BLM land and 17,471 acres of a mix of private and other public lands for a total of 148,884 acres. The appropriate management level for this HMA is 94 to 156 wild horses and 28 to 46 wild burros. Based on the 2023 census, the population of wild horses in the HMA is estimated at 253 and the population of wild burros in the HMA is estimated at 89.

3.1.13. Visual Resources

The area of analysis for visual resources is the Proposed Action boundary and the five-mile buffer around this boundary. The analysis area is in a remote area of Nevada that is generally undeveloped. The topography within the analysis area is flat to moderately steep, with elevations in the Proposed Action area ranging between 4,700 and 7,100 feet above mean sea level (amsl). The analysis area is within Visual Resource Management (VRM) Classes II, III, and IV.

3.2. Environmental Effects

Environmental effects on resources were evaluated based on the intensity, duration, and spatial or conceptual extent (or context) of the Proposed Action and No Action Alternative's effects on that resource. The definitions of intensity, duration, and context are resource-specific. Those definitions and the resource-specific methods to evaluate impacts are described in the SER for that resource (BLM 2025b through BLM 2025r). The sections below summarize the results of those analyses.

3.2.1. Cultural Resources

3.2.1.1. *Effects of Alternative A – Proposed Action*

Within the APE, there are 903 archaeological sites and 15 architectural resources. The Proposed Action Alternative has the potential to impact these cultural resources. Effects on these resources would be adverse, long-term, and localized. The 918 resources include 79 known eligible archaeological sites and architectural resources. Wherever possible, the Proposed Action Alternative would be developed to minimize impacts on known archaeological and architectural resources. However, complete avoidance of all cultural resources may not be feasible. Resources not recommended eligible for the NRHP may be impacted. For this class of resource, documentation at the Class III level is considered adequate; these resources would warrant no further documentation or consideration prior to Proposed Action impacts. The Proposed Action

has the potential to impact cultural resources that BLM, in consultation with the Nevada State Historic Preservation Office, has deemed eligible or potentially eligible for listing on the National Register of Historic Places. No ground disturbance will occur for the Proposed Action until a Memorandum of Agreement (MOA) is in place. A Historic Properties Treatment Plan (HPTP) will be developed and executed prior to Proposed Action impacts. These documents will address how adverse effects will be treated in consultation with the Nevada State Historic Preservation Office (SHPO). Unanticipated discoveries or unanticipated effects would be treated as described in the MOA.

3.2.1.2. *Effects of Alternative B – No Action*

Under the No Action Alternative, the Project would not be developed. Previously acknowledged exploration activities under existing Notices of Intent (NOIs) would continue. These disturbances would be reclaimed under the existing actions.

3.2.2. Native American Concerns

3.2.2.1. *Effects of Alternative A – Proposed Action*

Places of traditional religious and cultural importance and sacred sites have not been identified in the area of analysis for the Proposed Action. Therefore, adverse effects to these property types would not occur. Impacts on archaeological and architectural cultural resources are described in Section 3.2.1. No Native American impacts related to Native American Religious and Cultural Concerns have been identified at this time by the Tribes and are not anticipated from the Project. The BLM and the Tribes would continue active coordination and dialogue, per guidance provided in BLM Manual 1780 and BLM Handbook H-1780-1.

Although human remains are not expected, per Part 1.VI.C of the State Protocol Agreement (BLM and SHPO 2014), if Native American human remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered during the undertaking on federally-managed lands, BLM would comply with NAGPRA and its implementing regulations in 43 CFR 10, Subpart B. Human remains and associated grave goods discovered on private lands would be handled according to the provisions of Nevada Revised Statutes 383. Impacts on Native American traditional values resulting from the Proposed Action would be negligible to minor, short-term, and localized.

3.2.2.2. *Effects of Alternative B – No Action*

Under the No Action Alternative, the Project would not be developed. Previously acknowledged exploration activities under existing NOIs would continue. Effects would continue to occur under these actions.

3.2.3. Grazing Management / Range Resources

3.2.3.1. *Effects of Alternative A – Proposed Action*

Direct impacts on grazing management from surface disturbance would be minor, short-term, and localized. The Proposed Action Alternative would include direct removal of up to 364.64 acres of vegetation associated with new disturbance on public lands within the Proposed Action boundary, which would temporarily decrease available forage during the operations of the Project. The direct loss of forage habitat could also increase competition between wildlife, wild

horses, and livestock for remaining forage in the analysis area. Proposed Action-related disturbances would result in a temporary loss of 9.9 AUMs. Most Project-related disturbances would occur in the Blue Wing-Seven Troughs Grazing Allotment. Impacts on active AUMs from the Proposed Action Alternative would be minor, temporary, and localized.

All disturbances would be reclaimed following Project activities. Successful reclamation of surface disturbance may result in enhanced rangeland condition relative to the pre-mining rangeland condition due to revegetation efforts. The seeded grasses and forbs would have higher forage production and palatability than existing invasive and mature shrubland and sagebrush vegetation communities.

Economic impacts from the potential reduction in AUMs resulting from the Proposed Action Alternative would occur. In total, $949.50 in economic impacts would be realized annually based on the temporary loss of 9.9 AUMs and from the Proposed Action. These economic impacts would be approximately 0.03 percent of the total annual economic impact in the analysis area, based on the number of impacted AUMs to total active AUMs. These impacts would occur annually over the 10-year period of active exploration and up to three additional years to complete reclamation. The economic impact would be negligible, temporary, and localized to the agriculture industry economic output in Pershing County, which was estimated to be $29.7 million in 2020. The economic impacts on the affected permittees would be more discernable, though no adjustments to grazing management would be required beyond the small AUM reductions, and therefore economic impacts on the affected permittees may be minor, long-term, and localized. Interim reclamation may reduce the economic impact of the temporary loss of AUMs.

Impacts to livestock distribution or livestock mortalities from the Proposed Action Alternative would be anticipated to be negligible, short-term, and localized. Loss of key grazing areas that would necessitate major revisions in the grazing management approach for the remainder of the grazing allotment is not expected. The Proposed Action Alternative would not impact water sources to livestock, including access.

3.2.3.2. *Effects of Alternative B – No Action*

Under the No Action Alternative, the Project would not be developed. Previously acknowledged exploration activities under existing NOIs would continue. The disturbances on public land would continue to result in temporary losses of AUMs in the Proposed Action boundary and would be reclaimed under the existing actions.

3.2.4. Hazardous Materials and Solid Waste

3.2.4.1. *Effects of Alternative A – Proposed Action*

The Proposed Action Alternative would transport, store, and manage hazardous and non-hazardous materials for up to 10 years. Overall, impacts of hazardous materials and solid waste transport and use associated with the Proposed Action Alternative would be minor, short-term, and localized. In the event of a major or minor spill of hazardous materials, Millennial's Spill Response and Contingency Plan (SPCC) would include procedures for the response, containment, and safe cleanup of any spills or discharges of substances that potentially may degrade the environment. Operations of the Proposed Action would be conducted in accordance with the SPCC and would ensure that impacts from spills or releases would be minimized and the spill materials would be

contained and removed. Should a major spill occur during operations and maintenance, it would not be expected to affect a large area or spread off-site, and therefore impacts would be anticipated to be negligible to minor, short-term, and localized.

A spill of hazardous materials or fuels along transportation routes would primarily impact soil adjacent to the road. The spill would likely be contained and remediated within one year, making the spill or release short-term and localized. During drilling or baseline activities, Millennial would establish buffers around aquatic features and avoid activities within these buffers to prevent impacts on water quality from spills and other disturbances.

Some roads in the Proposed Action boundary that would be utilized by Millennial cross, or are adjacent to, seasonally or ephemerally flowing channels. Depending on the size and extent of the spill and the flow in the channel at the time of the spill, a spill that occurs during transport near drainages may result in a release into a waterway. The spill would likely be contained and remediated within one year, and channel flows occur in limited reaches within the Proposed Action boundary. Overall, a potential spill or release during transport would be short-term and localized.

The environmental effects of a release would depend on the substance, quantity, timing, and location of the release. Considering the transport routes, the probability of a spill of these materials impacting a wetland or other waterway is possible. Millennial would continue to implement EPMs and the SPCC to minimize the effects of a potential spill. Transporters of hazardous materials are required to immediately report any significant spills. Rapid response to any spills and subsequent cleanup actions would reduce long-term damage to the environment.

3.2.4.2. *Effects of Alternative B – No Action*

Under the No Action Alternative, the Project would not be developed. Previously acknowledged exploration activities under existing NOIs would continue. Regulation of hazardous materials and solid waste would continue to occur as described for these actions.

3.2.5. Recreation

3.2.5.1. *Effects of Alternative A – Proposed Action*

Impacts on recreation resources from the Proposed Action Alternative would be negligible, short-term, and localized. Recreation activities would still be permitted throughout the analysis area, though temporary restrictions would occur near active construction or operations. The Proposed Action Alternative would result in the short-term loss of use of up to 364.64 new acres of public land out of 113,206 public acres in the analysis area, which would be negligible and localized.

Recreationists may be displaced from areas of active operation elsewhere in the analysis area. However, ample comparable recreation opportunities and resources are available surrounding the Proposed Action boundary and throughout the analysis area. Therefore, management objectives for SMRA Zone 5 would remain compatible with the Proposed Action. Visual and noise-related impacts on recreational visitors during Project operations would be minor, temporary, and localized and would not change the characteristic landscape as a whole. As described in the SER for Noise (BLM 2025g), estimated noise levels from the Proposed Action Alternative would be less than the USEPA outdoor threshold for human health and lower than United States Forest

Service guidance for roadless area campsite spacing. Therefore, impacts on recreationists and other sensitive human receptors would be negligible, short-term, and localized. All disturbances would be reclaimed following operations.

Additional indirect impacts on recreation uses or resources could result from the displacement of game species around Project activities due to habitat loss, noise, and human activity. Impacts to recreationists from big game displacement caused by Proposed Action activities would be minor, short-term, and localized.

3.2.5.2. *Effects of Alternative B – No Action*

Under the No Action Alternative, the Project would not be developed. Previously acknowledged exploration activities under existing NOIs would continue. Associated impacts to recreational users from these activities would continue.

3.2.6. Soil

3.2.6.1. *Effects of Alternative A – Proposed Action*

Potentially, all soil units present in the analysis area could be directly impacted by the Proposed Action Alternative, as exact locations for Phase II and III disturbance are dependent on the findings of Phase I. All activities and surface disturbance to soil resources would be limited to the Proposed Action boundary. Hydric soils associated with wetlands in the analysis area would be avoided. Activities under the Proposed Action would also impact soils through dispersion and mobilization of soils via wind and water erosion. Millennial has committed to several EPMs to reduce erosion-related impacts. Erosion potential as a result of the Proposed Action Alternative would be minor, long-term, and localized.

During operations and reclamation, Millennial would employ a number of safeguards to prevent spills and leaks. If spills or leaks occur, Millennial would employ controls and cleanup measures in accordance with the NDEP guidelines. Therefore, any soil contamination impacts, should they occur, are anticipated to be minor, short-term, and localized.

All proposed surface disturbances would be reclaimed. To minimize effects on soils, reclamation would be conducted as soon as practical. Impacts on soil caused by reclamation activities of the Proposed Action Alternative, such as stockpiling and salvage, would be minor, long-term, and localized.

3.2.6.2. *Effects of Alternative B – No Action*

Under the No Action Alternative, the Project would not be developed. Previously acknowledged exploration activities under existing NOIs would continue. Disturbances to soil would continue to occur under these actions. In addition to the NOI-acknowledged disturbances, the analysis area contains existing disturbances from legacy mining operations that occurred prior to the existing NOIs, meaning that surface and subsurface soil horizons have been previously disturbed through surface and underground mining and surface exploration operations that occurred prior to 1981. These areas would not be reclaimed under the No Action Alternative.

3.2.7. Land Use, Realty, Access, and Transportation

3.2.7.1. *Effects of Alternative A – Proposed Action*

The Proposed Action Alternative would be consistent with BLM plans and policies that designate land uses within the analysis area for mineral exploration and development, as described in the Winnemucca RMP. The Proposed Action Alternative would be consistent with the multiple-use designations of lands in the Pershing County Master Plan and no conflicts would be anticipated. Additionally, Millennial would adhere to Pershing County plans, policies, and codes, as applicable. The Proposed Action Alternative would result in the loss of approximately 364.64 acres of new surface disturbance on public lands for multiple-use authorizations for the life of the Proposed Action. The impact on land use from temporary fencing used by the Proposed Action would be negligible, temporary to short-term, and localized. Post-mining land uses would be consistent with County and BLM land use plans and guidelines.

Up to 39 new workers may be commuting to the Project area during the life of the Proposed Action. Drilling crews would be transported to and from the drill site in up to three separate vehicles per rig. Increases in traffic along I-80 would be negligible but would be more discernable along state routes and local access roads. Overall, impacts to traffic along access roads from the Proposed Action Alternative would be minor, short-term, and localized.

The Proposed Action Alternative includes road improvements for some segments of roads in the Proposed Action boundary. Millennial would also have agreements in place with Pershing County for the maintenance of Seven Troughs and Stonehouse Canyon County roads. Temporary restrictions on public access during road improvement or maintenance operations may inconvenience the public if they choose to access these roads. No changes to public access roads would occur outside of the Proposed Action boundary. Overall, impacts on public access roads from the Proposed Action Alternative would be minor, temporary, and localized.

3.2.7.2. *Effects of Alternative B – No Action*

Under the No Action Alternative, the Project would not be developed. Previously acknowledged exploration activities under existing NOIs would continue. The Project area would continue to be accessed for notice-level activities by the existing workforce through the same routes as described for the Proposed Action Alternative.

3.2.8. Vegetation

3.2.8.1. *Effects of Alternative A – Proposed Action*

Impacts on vegetation resources, including noxious and invasive, non-native species, would occur from surface-disturbing activities of the Proposed Action Alternative.

Overall effects on vegetation communities from the Proposed Action Alternative would be localized, long-term, and minor. The Proposed Action Alternative would include the removal of up to 364.64 acres of vegetation associated with new surface disturbance on public lands. None of the ecological sites within the Plan boundary are considered unique or rare, and many of the sites have transitioned to more degraded states. All of the proposed disturbances would be reclaimed and revegetated after project activities are complete, which would minimize the long-

term impacts to vegetation communities. Except for existing tree species, the seed mix would help re-establish desirable species similar to pre-disturbance communities. Indirect effects on vegetation that relate to the loss of forage for wildlife, wild horses, and livestock, and the potential for increased soil erosion, are discussed in the sections addressing these resources.

Effects from the Proposed Action Alternative on the spread and establishment of noxious weeds and non-native invasive species would be minor, long-term, and localized. The implementation of the Project's Weed Management Plan (WMP) and related applicant-committed EPMs and BMPs, detailed in the SIR (BLM 2025a), would substantially reduce the spread and establishment of noxious weeds and non-native invasive species from the Proposed Action. The Proposed Action Alternative could disturb or remove populations of the noxious weed white top that were observed to occur along some roadsides that are proposed to be widened, which would remove the existing weeds from these areas during operations.

3.2.8.2. *Effects of Alternative B – No Action*

Under the No Action Alternative, the Project would not be developed. Previously acknowledged exploration activities under existing NOIs would continue. Effects would continue to occur to vegetation communities for these activities on public lands in the Proposed Action boundary until they are reclaimed. Removal of noxious weeds and non-native invasive species could occur if acknowledged disturbances were in areas where these species occurred. Actions under the NOIs would continue to implement noxious weed prevention and control which would minimize the risk of spread or invasion of these species.

3.2.9. Water

3.2.9.1. *Effects of Alternative A – Proposed Action*

The overall impact on water quantity within the analysis area from the Proposed Action Alternative would be minor, short-term, and localized. Two water supply wells are proposed to be drilled within the Black Rock Desert hydrographic basin. The proposed wells would be more than 4,370 feet (0.82 miles) or more to the east of the closest seep/spring or wetland and more than three miles from the nearest intermittent channel. The wells would supply groundwater for road and drill pad construction, drilling, and dust suppression in the Project area. Usage is estimated to average 80,000 gallons per day (gpd) with a range from 45,000 to 270,000 gpd. Millennial would obtain appropriate water rights from the NDWR. Water used for drilling may be reinfiltrated into the ground either by drainage or discharge to ephemeral drainages. A temporary discharge permit would be acquired from the NDEP prior to discharging. Given the low amount of water supply needs for the project, distance of the supply wells from aquatic resources, reinfiltration of most water that would be pumped from the supply wells, and NDEP permit stipulations, pumping by the Proposed Action Alternative would not be expected to result in groundwater or surface water resource impacts. Seeps and springs would be monitored during operations to ensure that any impacts to seeps and springs are being avoided.

Impacts on surface water and groundwater quality, including wetlands, from the Proposed Action Alternative would be negligible, short-term, and localized. The activities of the Proposed Action would avoid working near surface water or wetland resources. Drill pads would not be constructed in springs or wetlands. Any construction or operations within 300 feet of surface water or wetlands would employ stormwater BMPs to control sediment and protect water

quality. Seeps and springs would be monitored during Proposed Action activities to protect the water quantity and quality of seeps and springs. Spills would be minimized and managed following the Project's Spill Contingency Plan. The risk of potential surface or groundwater quality from spills/leaks of hazardous materials would be minor, short-term, and localized.

Following the evaluation of geological materials from the drill cores, drill holes would be plugged and abandoned in accordance with applicable Nevada state regulations NAC 534.4369 through 534.4371. If groundwater is encountered, the hole would be plugged pursuant to NAC 534.420. If any drill hole produces artesian flow, it would be contained pursuant to NRS 534.060 and NAC 534.378 and sealed pursuant to NAC 534.426.

The potential for stormwater to impact the water quality of surface water, wetlands, or groundwater, including impacts from disruption of soils or sediments during construction, would be minor, short-term, and localized. Stormwater EPMs would be utilized to control erosion and sedimentation on and near disturbed areas. Sediment control structures would include certified weed-free straw bale filter fences, siltation or filter berms, mud sumps, and/or downgradient drainage channels. Drainage structures including waterbars, borrow ditches, and culverts would be installed where necessary. Culverts would be designed to meet NAC 445A.433.1(d) requirements to pass through the peak discharges from the 24-hour, 25-year storm event. Impacts from the culvert installations would be minor, short-term, and localized.

3.2.9.2. *Effects of Alternative B – No Action*

Under the No Action Alternative, the Project would not be developed. Previously acknowledged exploration activities under existing NOIs would continue. Any associated impacts to water resources or wetlands would continue to occur under permitted stipulations in the NOIs.

3.2.10. Wildlife

3.2.10.1. *Effects of Alternative A – Proposed Action*

The Proposed Action Alternative would result in the removal of up to 364.64 acres of potential wildlife habitat on public lands during exploration activities until reclamation and revegetation are complete. These surface disturbances would result in direct losses of wildlife foraging areas, burrowing sites for mammals, burrowing owls, or reptiles, and nesting sites for birds that nest on the ground, in shrubs, or in juniper trees. Wildlife would retain access to water sources and Millennial would avoid working in or around aquatic resources. Overall, impacts to wildlife habitat from the Proposed Action Alternative would be minor, short-term, and localized. Mortalities to general wildlife, including big game, could occur from collisions with vehicles and equipment and would be negligible, short-term, and localized.

In general, wildlife would be expected to avoid areas due to noise and human activities. Wildlife might be most affected by construction activities which are estimated to produce the highest noise levels relative to baseline levels. Impacts on wildlife species from human presence and noise would occur and would be minor, temporary to short-term, and localized.

Impacts on mule deer and pronghorn antelope habitat would primarily occur within NDOW Hunt Unit 41 because the majority of their habitat is within this Hunt Unit. Impacts on mule deer and pronghorn due to surface disturbance would be minor, short-term, and localized.

Millennial has developed a Bird and Bat Conservation Strategy (BBCS) to minimize and avoid impacts to raptors, birds, and bats, and avoid incidental take of golden eagles. Millennial would conduct surface disturbance outside of raptor and migratory bird breeding and nesting seasons if practicable. If surface disturbing activities are unavoidable during raptor and bird breeding and nesting seasons, preconstruction surveys for migratory birds and a raptor nest survey prior to land disturbance would be conducted and avoidance buffers established around the nests in consultation with BLM, NDOW, and USFWS. With these EPMs in place, impacts related to direct mortality to birds and raptors or their young or egg abandonment due to noise and human activity would be negligible, short-term, and localized.

3.2.10.2. *Effects of Alternative B – No Action*

Under the No Action Alternative, the Project would not be developed. Previously acknowledged exploration activities under existing NOIs would continue. Environmental effects on wildlife would continue to occur under these actions.

3.2.11. Special Status Species

3.2.11.1. *Effects of Alternative A – Proposed Action*

The type and level of impacts described in Section 3.2.10 for wildlife and their habitats would be the same as for special status wildlife species. Overall, impacts on special status wildlife habitat from the Proposed Action Alternative would be minor, short-term, and localized. Mortalities of special status wildlife could occur from collisions with vehicles and equipment and would be negligible, short-term, and localized. Impacts on special status wildlife species from human presence and noise would be minor, temporary to short-term, and localized. Impacts related to direct mortality of birds and raptors, or their young, or egg abandonment due to noise and human activity would be negligible, short-term, and localized.

Fifteen underground mine workings features were confirmed or inferred to be used by bats as day or night roost sites in the analysis area. None of the features were found to be used as hibernacula. No intentional destruction of roost sites would occur from the Proposed Action Alternative. The BBCS includes measures to avoid and minimize bat roosting sites and with the implementation of these measures and other EPMs to minimize impacts to habitat, potential impacts to bats would be negligible, short-term to long-term, and localized.

Under the Proposed Action Alternative, new surface disturbances totaling 364.64 acres on public lands would potentially remove PHMA, GHMA, or OHMA Greater sage-grouse habitat as mapped in the 2015 ARMPA, until reclamation restores these habitats. Millennial would comply with the Conservation Credit System (CCS) program to ensure net conservation gain. The Proposed Action Alternative would not generate permanent debits. Impacts on Greater sage-grouse habitat as a result of surface disturbance would be minor, long-term, and localized. The leks within and adjacent to the Proposed Action boundary were not active as of 2022. As part of the BBCS, Millennial would conduct lek attendance monitoring to confirm inactivity. If leks become active in the future, Millennial would establish sound and/or distance barriers around active leks to ensure that project noise does not impact Greater sage-grouse lekking behavior. With the implementation of the EPMs, potential impacts to Greater sage-grouse leks would be negligible, short-term, and localized.

Effects on special status plant species from the Proposed Action Alternative would be negligible, short-term, and localized. Five special status plant species have the potential to occur in the analysis area; however, none were identified during the baseline surveys conducted in 2022. Effects on general vegetation and the potential for noxious weed spread are described in Section 3.2.9.

3.2.11.2. *Effects of Alternative B – No Action*

Under the No Action Alternative, the Project would not be developed. Previously acknowledged exploration activities under existing NOIs would continue. Environmental effects on special status species would continue to occur under these actions. Acknowledged disturbances could impact special status plant species if disturbances occurred in potentially suitable habitat for these species; however, no special status species were found during baseline surveys.

3.2.12. Wild Horses and Wild Burros

3.2.12.1. *Effects of Alternative A – Proposed Action*

Direct effects of the Proposed Action Alternative on wild horses and wild burros would include a short-term loss of habitat and a reduction of available forage. Habitat availability would persist long-term until successful completion of reclamation. Not all vegetation communities in the analysis area represent high-value forage or habitat to wild horses and wild burros, such as pinyon-juniper woodland and invasive species-dominated vegetation communities. Access by wild horses or wild burros through the analysis area or to water sources in and around the analysis area would not be restricted. The reclaimed plant communities would be dominated in the short term by grasses and forbs, while shrubs slowly establish. Wild horse and wild burro access to revegetated areas may be resumed after re-established vegetation is capable of supporting grazing (approximately three to five growing seasons after final revegetation, depending on the vegetation).

Indirect effects on wild horses and wild burros could include displacement from exploration activities and temporary changes in use patterns from increased vehicle activity, increased noise, and human presence. These effects would be minor, short-term, and localized. Mortality or injury to wild horses or wild burros may occur from vehicle collisions and would be negligible, short-term, and localized.

3.2.12.2. *Effects of Alternative B – No Action*

Under the No Action Alternative, the Project would not be developed. Previously acknowledged exploration activities under existing NOIs would continue. Effects would continue to occur on habitat and forage quality for wild horses and wild burros for these actions on public lands in the Proposed Action boundary until they are reclaimed.

3.2.13. Visual Resources

3.2.13.1. *Effects of Alternative A – Proposed Action*

Based on the viewshed analysis described in the SER for Visual Resources (BLM 2025h), surface disturbances from the Proposed Action Alternative would be intermittently visible. Most disturbances would occur at mid-ground distances (three to five miles from the key observation point). Beyond five miles, contrasts created by Proposed Action activities would not be expected

to be visually discernible from the surrounding landscape. Activities of the Proposed Action include applicant-committed EPMs designed to mimic the basic elements of color and texture found in the predominant natural features of the characteristic landscape. With EPMs in place, the management objective of VRM Class II would be maintained, and impacts on visual resources would be minor, temporary to short-term, and localized.

Nighttime lighting would be used at active drill pads, which would occur over short durations. Millennial would follow "Dark Sky" lighting practices throughout the life of the Project, such as shielded lights, using the lowest possible light settings, and limiting the number of lights. Nighttime lighting of the Proposed Action Alternative would create minor, temporary, localized impacts.

3.2.13.2. *Effects of Alternative B – No Action*

Under the No Action Alternative, the Project would not be developed. Previously acknowledged exploration activities under existing NOIs would continue. Associated impacts on visual resources would continue from these actions.

3.3. Cumulative Effects Analysis

This section analyzes environmental effects (impacts) from past, present, and reasonably foreseeable future actions (RFFAs) combined with the project within a Cumulative Effects Study Area (CESA). The CESA is specific to the resources for which impacts may be anticipated. This analysis focuses on the cumulative impacts of the Proposed Action Alternative combined with other actions within the CESA.

Cumulative effects were analyzed for any resource that would result in minor, moderate, or major effects in the analysis area, as described in the SER for that resource (BLM 2025b through BLM 2025r). If the Proposed Action or Alternatives were determined to have a negligible or no effect, a cumulative analysis was not completed as there would be no impact to add to the environment. Cumulative effects for Air Quality, Geology and Minerals, Land Use and Realty, Riparian and Wetlands, Socioeconomic Values, and Public Safety were not included based on the outcome of the analyses described in each SER for that resource (BLM 2025b, BLM 2025d, BLM 2025f, BLM 20252025p, BLM 2025k, BLM 2025r).

The boundaries of the CESAs vary by resource because cumulative effects are evaluated in terms of the specific resource, ecosystem, and human community being impacted. To determine the size of the CESAs, each environmental resource was analyzed to determine the extent to which the environmental effect from the Project could be reasonably detected, and the geographic area impacted was defined. The geographical areas considered for the analysis of cumulative effects are illustrated on the CESA figures for each resource. **Table 3-2** outlines the CESAs and their sizes.

Past, present, and RFFAs were identified within the CESAs as projects that could potentially interact or have a close causal relationship with the Proposed Action Alternative. These actions were identified using BLM's Mineral and Land Records System (BLM 2024s), the United States Department of Agriculture (USDA) cropland data (USDA 2025), and aerial imagery. Present actions that are considered include those that have existing and/or ongoing disturbances. RFFAs are those actions where a permit application has been submitted but an action has not yet been authorized. **Table 3-3** shows the estimated acres of surface disturbance associated with past,

present, and RFFAs for each of the CESAs where surface disturbances are used to describe the cumulative impacts. Surface disturbances were used to describe most resources because they allow the combined surface disturbance impacts of all projects to be totaled. Transportation, hazardous materials, and water resources were not included in **Table 3-3** because their impacts were note evaluated based on acres of surface disturbance.

Table 3-2. Cumulative Effects Study Areas by Resource

Resource	CESA	Size of the Area (acres)	Figure
Cultural Resources	Includes the area encompassed by the Indirect and Direct APE, which is the Proposed Action boundary.	12,432	3-1
Grazing Management / Range Resources	Includes the Blue Wing Seven Troughs and Majuba Grazing Allotments. The grazing resource CESA was based on the cumulative impact potential of the Proposed Action within BLM's grazing allotments.	1,656,479	3-2
Noxious Weeds/Invasive Non-native Species	Includes the Blue Wing Seven Troughs and Majuba Grazing Allotments. This CESA was chosen because it includes the geographic area where cumulative impacts to soils are most likely to occur as a result of the Proposed Action.	1,656,479	3-2
Soil Resources	Includes the Blue Wing Seven Troughs and Majuba Grazing Allotments. This CESA was chosen because it includes the geographic area where cumulative impacts to soils are most likely to occur as a result of the Proposed Action.	1,656,479	3-2
Hazardous Materials	Includes the equipment and supply transportation route along I-80 to SR 398 and SR 399 to the Proposed Action area. This CESA was chosen because the risk of fuel released to the environment is more likely during transportation than during use.	131 miles of roads	3-3
Transportation and Access	Includes equipment and worker transportation routes which would occur either along I-80 onto SR 398 and SR 399 to the Proposed Action area, or along Jungo Road from Winnemucca to the Proposed Action area. This CESA was chosen because transportation effects would occur along access routes.	241 miles of roads	3-3
Vegetation Resources	Includes the Blue Wing Seven Troughs and Majuba Grazing Allotments. This CESA was chosen because it includes the geographic area where cumulative impacts to soils are most likely to occur as a result of the Proposed Action.	1,656,479	3-2

Resource	CESA	Size of the Area (acres)	Figure
Visual Resources	A five-mile buffer on the Proposed Action boundary. This CESA was chosen because it includes the potential limit of visibility where the Project facilities could be visible under the Proposed Action and the potential area where cumulative impacts to visual resources would occur.	134,264	3-5
Water Resources	Granite Springs Valley hydrographic basin (Basin number 078) and Black Rock Desert hydrographic basin (Basin number 028). This water CESA was based on the cumulative impact potential of the Proposed Action within regulated groundwater basins that overlap the Project.	2,008,960	3-5
Wild Horses and Burros	Seven Troughs HMA. The wild horse CESA was based on the cumulative impact potential of the Proposed Action within BLM's HMAs.	148,884	3-6
General Wildlife and Big Game	NDOW Hunt Units 41 and 42. This CESA was based on the cumulative impact potential of the Proposed Action within game management regulated units.	2,482,104	3-7
Special Status Species: Greater sage-grouse	A four-mile buffer surrounding the Proposed Action boundary. This CESA is based on the cumulative impact potential of the Proposed Action within ARMPA and NDOW guidance for the lek analysis area.	102,753	3-8
Raptors, Migratory Birds, and Special Status Wildlife Species	A one-mile buffer surrounding the Proposed Action boundary. This CESA was based on the cumulative impact potential of the Proposed Action within USFWS and NDOW guidance for raptors.	31,031	3-9

Table 3-3. Past, Present, and RFFAs for CESAs

Past, Present, and RFFAs, Disturbances and Projects	Cultural CESA	Range, Soil, and Vegetation, Special Status Plant, and Noxious Weed CESA	Visual CESA	Wild Horse and Burro CESA	General Wildlife and Big Game CESA	Raptor, Migratory Bird, and Bat CESA	Greater Sage-Grouse CESA
CESA Acres	12,432	1,656,479	134,264	148,884	2,482,104	31,031	102,753
Past Actions							
Notices	32.5	616	92	137	890	47	92
Mining and Exploration Projects	0	10,688	0	6	12,682	0	0
Sand and Gravel and Material Sites	40	1,678	210	507	1,728	40	210
Solar Developments	0	0	0	0	4,031	0	0
Public Purpose Developments	0	2,581	0	10	2,581	0	0
Utilities, Public Infrastructure, Airports	0	850	12	12	3,602	0	12.4
Transmission and Communication ROWs	0	3,341	0	0	3,935	0	0
Roads	0	47	0	0	460	0	0
Railroad	0	133	0	0	133	0	0
Past Actions Total Disturbance Acres:	*73*	*19,934*	*314*	*672*	*30,042*	*87*	*314*
Present Actions							
Notices	11.5	29	21	21	34	11	21
Mining and Exploration Projects	0	21,355	0	895	21,955	0	0
Geothermal Development and Exploration	0	1,967	0	0	1,967	0	0
Sand and Gravel and Material Sites	0	1,066	100	270	1,199	0	100
Agricultural Areas	0	1,059	0	0	16,042	0	0
Oil and Gas Development	0	748	0	0	748	0	0
Utilities, Infrastructure, Public Facilities, Airports	0	409	0	0	554	0	0
Transmission and Communication ROWs	0	14,854	0	0	16,064	0	0
Roads	43	3,074	318	226	9,628	77	229

Past, Present, and RFFAs, Disturbances and Projects	Cultural CESA	Range, Soil, and Vegetation, Special Status Plant, and Noxious Weed CESA	Visual CESA	Wild Horse and Burro CESA	General Wildlife and Big Game CESA	Raptor, Migratory Bird, and Bat CESA	Greater Sage-Grouse CESA
Railroads	0	3,377	0	0	3,377	0	0
Present Actions Total Disturbance Acres:	*55*	*47,938*	*440*	*1412*	*71,567*	*89*	*350*
RFFAs							
Notices	0	44.6	0	0	82.5	0	0
Mining and Exploration Projects	0	5	0	0	5	0	0
Geothermal Development and Exploration	0	27,662	0	0	27,662	0	0
Sand and Gravel and Material Sites	0	50	0	0.01	50	0	0
Utilities, Infrastructure, and Public Facilities	0	214	0	0	214	0	0
Transmission and Communication ROWs	0.1	6,346	0	0.1	6,387	0.1	0.1
Roads	0	98	0	0	98	0	0
RFFAs Total Disturbance Acres:	*0.1*	*34,419*	*0.1*	*0.1*	*34,498*	*0.1*	*0.1*
Total Past, Present, and RFFA Total Disturbance Acres:	127	102,291	754	2,085	136,108	176	664
Past, Present, RFFAs - Percent of CESA	1.0%	6.2%	0.6%	1.4%	5.5%	0.6%	0.6%
Fires	5,426	234,415	77,054	37,277	513,822	17,845	61,828
Proposed Action Disturbance in CESA:	386.59	386.59	386.59	386.59	386.59	386.59	386.59
Total Disturbance with Proposed Action:	514	102,678	1,141	2,472	136,494	562	1,051
Percent of CESA Disturbed with Proposed Action:	4.1%	6.2%	0.8%	1.7%	5.5%	1.8%	1.0%

3.3.1. Cultural Resources

3.3.1.1. *Cumulative Effects of the Proposed Action Alternative*

Of the 12,432 acres covered by the CESA, 127 acres of disturbances are associated with past, present, and RFFAs. These disturbances are approximately one percent of the CESA. Within the CESA, past and present disturbance, as detailed in **Table 3-3**, has resulted from notice-level mineral exploration projects (44 acres), sand and gravel and other material sites (40 acres); roads (43 acres), dispersed recreation, and livestock grazing. Additionally, approximately 5,426 acres within the CESA have been affected by recent and past wildland fires. RFFAs in the CESA include a potential utility project (0.1 acres), in addition to continued recreation uses, livestock grazing, reclamation projects, agricultural uses, and the potential for wildland fires. Some reclamation of currently acknowledged notice-level exploration disturbances would also occur. Past and present actions may have resulted or may result, in illegal collecting and/or inadvertent damage to cultural resources.

Any of the RFFA projects with a federal nexus would require compliance with Section 106 of the NHPA to determine if they affect historic properties. As part of Section 106, federal agencies are required to consider the views of consulting parties, including SHPO, Native American tribes, and others.

Impacts on cultural resources, including those not eligible for the NRHP and NRHP-eligible sites mitigated through data recovery, impact the cultural landscape. The development of the Proposed Action would contribute to these cumulative effects. Minimization of cumulative effects from the Proposed Action would be addressed through avoidance of identified eligible and unevaluated sites. If avoidance is not possible, eligible and unevaluated sites would be mitigated as agreed upon by the Historic Properties Treatment Plan.

Approval of the Proposed Action Alternative would increase disturbance within the CESA by 386.59 acres (364.64 acres of which are on public lands). The total disturbances, in addition to disturbances associated with past, present, and RFFAs, would be 523.6 acres which is approximately 4.2 percent of the CESA. The intensity and duration of the cumulative effects would vary depending on the cultural resources and sensitive areas impacted and the mitigation plans in place; however, these impacts would occur over the long term. Cultural resources inventories and government-to-government consultation/coordination would be completed for any future proposed development within the CESA with a federal nexus, and potential adverse impacts to any Native American traditional values would be avoided or mitigated, as appropriate.

Illegal collecting of artifacts and inadvertent damage to archaeological sites, and sites of tribal concern, likely has occurred in the past and may continue to occur in the CESA through increased access, and increased human presence as a result of past, present, and RFFAs. Cumulative impacts would occur over the long term and could be adverse.

3.3.1.2. *Cumulative Effects of the No Action Alternative*

Under the No Action Alternative, the Proposed Action would not be developed and the associated impacts to cultural resources would not occur. Overall, cumulative effects to this CESA from the No Action Alternative would be less than the Proposed Action since additional

surface disturbance from that alternative would not occur and therefore would not impact additional cultural resources. However, activities in the CESA not related to the Proposed Action, but contributing cumulative effects to cultural resources, may still occur. These would be localized, would occur over the long term, and could be adverse.

3.3.2. Grazing Management / Range Resources

3.3.2.1. *Cumulative Effects of the Proposed Action Alternative*

The CESA for grazing management and range resources is the Blue Wing Seven Troughs and Majuba Grazing Allotments. Of the 1,656,479 acres in the CESA, approximately 102,291 acres of disturbances are associated with past, present, and RFFAs. These disturbances are approximately 6.2 percent of the CESA. Past and present disturbances, as detailed in **Table 3-3**, have resulted from mineral development, exploration, and notice level projects (32,688 acres), sand and gravel and other material site development (2,745 acres), utilities, infrastructure, and public purpose developments (3,840 acres), oil, gas, and geothermal developments (2,715 acres), transmission and communication ROWs (18,196 acres), agricultural use (1,059 acres), roads (3,120 acres), and railroads (3,509 acres). There are also various range improvements within the CESA, including range fences. Recreational uses occur throughout the CESA. Additionally, approximately 234,415 acres within the CESA have been affected by recent and past wildland fires. RFFAs in the CESA include mineral development, exploration, and notice-level projects (50 acres), geothermal development (27,662 acres), sand and gravel and material sites (50 acres), utilities, infrastructure, and public purpose activities (214 acres), transmission and communication ROWs (6,346 acres), and roads (98 acres). Continued recreational uses, livestock grazing, reclamation projects, and agricultural uses are also expected to occur, as well as the potential for wildland fires.

Mineral development and exploration activities, utilities, infrastructure, and public purpose sites that occur within the CESA can impact range conditions through surface disturbance and vegetation clearing. These activities can negatively impact range quality directly through the removal of forage and indirectly through the spread of noxious and invasive, non-native plant species, which could further reduce forage availability and quality. The direct loss of forage habitat could also increase competition between wildlife, wild horses, and livestock for remaining forage in the CESA. Mines and utilities such as pipelines, telephone lines, and power transmission lines have limited long-term footprints, and reclamation activities that typically follow the installation of these features can minimize long-term impacts and assist in reducing the spread of noxious and invasive, non-native plant species. If reclamation activities are not conducted following these activities, areas of productive forage could be lost; however, reclamation is required for disturbance on public lands.

Road disturbance may result in long-term soil compaction on or adjacent to the roadway. This environment has the potential to introduce or spread noxious and invasive non-native plant species throughout the CESA. Vehicles traveling on roadways also have the potential to collect and disperse seeds throughout and beyond the extent of the CESA. The spread of noxious and invasive, non-native plant species could reduce the quality of the forage available within each allotment. Vehicle traffic on roads could also lead to direct impacts on livestock from collisions.

Other grazing impacts that are not quantifiable include competing public land uses (recreation, mining, subdividing private lands, etc.), market forces, and other issues that could impact the viability of livestock operations.

Wildland fires alter vegetation communities, which creates opportunities for noxious and invasive, non-native plant species to invade, become established, and spread. Wildland fires can also remove the shrub and tree components from vegetation communities and allow grasses and forbs to dominate for a period of time, improving forage availability.

RFFAs would lead to similar disturbances and impacts as stated in past and present actions.

Approval of the Proposed Action Alternative would increase disturbance within the CESA by 386.59 acres (of which 364.64 acres would occur on public lands). The total disturbances, in addition to disturbances associated with past, present, and RFFAs, would be 102,678 acres, which is approximately 6.2 percent of the CESA. Much of the past, present, and RFFA surface disturbance on BLM land would be reclaimed following the actions, including the Proposed Action, which will reduce the duration of impacts on range resources. The cumulative effects of past, present, and RFFAs including the Proposed Action would have a negligible, long-term, and localized effect on range resources in the CESA.

3.3.2.2. *Cumulative Effects of the No Action Alternative*

Under the No Action Alternative, the Proposed Action would not be developed and the associated impacts to range resources would not occur. Cumulative effects to this CESA from the No Action Alternative would be less than the Proposed Action since additional surface disturbance would not occur and would not impact range resources. Overall, cumulative effects on range resources from past, present, and RFFAs including the No Action Alternative are expected to be negligible, long-term, and localized.

3.3.3. Hazardous Materials and Solid Waste

3.3.3.1. *Cumulative Effects of the Proposed Action Alternative*

The CESA for hazardous materials and solid wastes encompasses the Proposed Action boundary and equipment and supply transportation routes that would occur from either Winnemucca or Reno, Nevada. The combined miles of these routes are approximately 132 miles from Reno or Winnemucca to the Proposed Action area. Cumulative effects were analyzed by examining the potential transportation routes where hazardous materials may be shipped to and from the Proposed Action area. Past and present actions that have occurred within this CESA may include the transport of hazardous or solid wastes associated with urban, commercial, and industrial developments.

Under the Proposed Action Alternative, hydrocarbons would not be transported in bulk quantities and the project would not generate substantial amounts of solid waste. Therefore, the amount of hydrocarbons and solid waste on transportation routes used by the Proposed Action would be comparable to current levels.

The Proposed Action Alternative would not generate or dispose of hazardous waste. Diesel, oil, and lubricants would be transported to the site and temporarily stored in portable containers (e.g., tanks in the pickup trucks for diesel fuel). If an accidental release of hydrocarbons were to occur in the Proposed Action area, Millennial's Spill Contingency Plan includes measures that would

be taken for spill response guidelines to control the extent of the release, and the appropriate agencies would be notified in accordance with the applicable federal and state regulations. Based upon the small quantities of hydrocarbons that would be transported by the Proposed Action, an accident resulting in a substantial release to the environment during transportation is not anticipated. The Proposed Action Alternative would represent a negligible cumulative increase in the transportation of hydrocarbons or solid waste along the transportation routes within the CESA.

The cumulative impact of past, present, and RFFAs, including the Proposed Action Alternative, would have a negligible, short-term, and localized effect on hazardous material or solid waste transport in the CESA.

3.3.3.2. *Cumulative Effects of the No Action Alternative*

Under the No Action Alternative, the Proposed Action would not be developed and the associated transportation of hydrocarbons or solid wastes would not occur. Cumulative effects to this CESA from the No Action Alternative would be less than the Proposed Action since additional transportation of these materials from that alternative would not occur.

3.3.4. Soil

3.3.4.1. *Cumulative Effects of the Proposed Action Alternative*

The CESA for soil resources is the Blue Wing Seven Troughs and Majuba Grazing Allotments. Past, present, and RFFAs for this CESA were described in Section 3.3.2.

Each past and present disturbance in the CESA may have impacted soil resources in a variety of ways. Heavy equipment could have resulted in soil compaction, increasing the density to the point where vegetation cannot grow and support the ecosystem. Disturbance of soil can make it vulnerable to wind and water erosion. Heavy precipitation events can then remove soil and transport sediment downstream. Roads reduce the infiltration of water into the soil and concentrate erosive forces down embankments. Natural soil profiles are also lost during ground disturbance and agricultural use. Contamination can occur by exposing naturally occurring geochemical processes or through inadvertent releases.

Recreation and livestock grazing may also have resulted in impacts on the soil. These uses can increase erosion, particularly along waterways where activities are concentrated. Livestock trails can serve as new sources of erosion, combining vegetation disturbances with breaking apart the soil surface, which can channel precipitation into new areas.

Wildland fires can alter soil infiltration and remove or change the vegetation, which prevents erosion. Regular occurrences of fire are also a natural component of the landscape, returning nutrients to the soil and triggering the succession of different communities in the CESA.

RFFAs would lead to similar disturbances and impacts as stated for past and present actions.

Approval of the Proposed Action would increase disturbance within the CESA by 386.59 acres (of which 364.64 acres would occur on public lands). The total disturbances, in addition to disturbances associated with past, present, and RFFAs, would be 102,678 acres, which is approximately 6.2 percent of the CESA. This increased disturbance from the Proposed Action is negligible within the CESA. Much of the past, present, and reasonably foreseeable surface disturbance would be reclaimed following the actions, including the Proposed Action, therefore

decreasing the potential for erosion and degradation of soil resources. The cumulative impact of past, present, and RFFAs, including the Proposed Action Alternative, would have a negligible, long-term, localized cumulative effect on soil resources in the CESA.

3.3.4.2. *Cumulative Effects of the No Action Alternative*

Under the No Action Alternative, the Proposed Action would not be developed and the associated impacts on soil resources would not occur. Cumulative effects that include the No Action Alternative would be less than the Proposed Action since additional surface disturbance from that alternative would not occur and would therefore not impact soil. Overall, cumulative effects on soil resources from past, present, and RFFAs including the No Action Alternative are expected to be negligible, long-term, and localized.

3.3.5. Transportation and Access

3.3.5.1. *Cumulative Effects of the Proposed Action Alternative*

This CESA encompasses the worker commuting, equipment, and supply transportation routes that would occur from either I-80 to SR 398 and SR 399, and Seven Troughs Road, or else along Jungo Road from Winnemucca. The combined miles of these routes are approximately 241 miles from Reno or Winnemucca to the Project area.

Within the vicinity of the CESA, past and present activities include mineral development and exploration projects, utilities, infrastructure, and public purpose activities, oil, gas, and geothermal development, transmission, and communication ROWs, roads and railroads, and solar developments. These activities generate traffic on the surrounding road network, and would primarily impact major and minor collector routes, such as I-80 and state routes. Traffic generation depends on the size and intensity of operations of the facilities. Infrastructure development and public utilities sites (e.g., wastewater treatment facilities) surrounding the CESA may generate traffic during construction and following construction as part of routine maintenance.

RFFAs within the vicinity of CESA would include mineral development and exploration projects, utilities and infrastructure, and additional roads. In 2022, traffic counts along I-80 in Pershing County segments (including exit ramps) averaged about 2,030 vehicles per day (NDOT 2022a). Traffic count trends along I-80 segments that are in Pershing County increased by an average of 51 percent between 2013 and 2022. Traffic counts are also recorded along segments of SR 398 and SR 399. Traffic counts along the Proposed Action transport route's segments of SR 398 and SR 399 near Lovelock averaged about 330 vehicles per day in 2022. Traffic volumes along these segments decreased an average of five percent between 2013 and 2022. A traffic counter along Jungo Road, one mile west of Winnemucca, reported traffic counts of 1,200 vehicles per day in 2022 (NDOT 2022b). Between 2013 and 2022, traffic counts along Jungo Road decreased by 55 percent.

The Proposed Action would add up to 39 workers a day if all drill rigs were active at the same time. If all workers drove separately, this would represent a maximum of 39 vehicles traveling along access routes during active drilling of the Proposed Action. Most workers would be expected to access the road by I-80 and SR 398 (the main access route). Some workers may also travel along Jungo Road from Winnemucca. If 90 percent of workers travel along the main access route (a maximum of 35 vehicles), this would represent a 1.7 percent increase along I-80

segments and a 10.7 percent increase in traffic along SR 398 and SR 399. If 10 percent of workers accessed the Proposed Action area from Jungo Road (a maximum of four vehicles), the Proposed Action would represent an increase along this route of a maximum of 1.2 percent. These increases would be minor, temporary, and localized.

Traffic volume in Pershing County shows an average growth rate of three percent annually along all monitored collection points (NDOT 2022a). RFFAs that are large-scale projects may temporarily increase traffic above this background growth rate. Large-scale RFFA projects may include geothermal developments, infrastructure projects, and additional transportation and communication rights of ways. Wildland fires in and surrounding this CESA may occur in the future, which may have a temporary effect on traffic conditions.

Although the Proposed Action would generate traffic from new workers in the CESA, impacts from the Proposed Action, resulting in up to 39 new workers commuting to the Project area during the life of the Proposed Action, would represent an increase of less than the background traffic growth rate of major and minor collector routes in the CESA. This increase would be negligible overall. Traffic volumes along specific segments of SR 398 and SR 399 from the Proposed Action, in addition to past, present, and RFFAs, would be minor. The addition of the Proposed Action would not degrade the level of service to an unacceptable level in the CESA. The cumulative impacts from the Proposed Action in addition to past, present, and RFFAs would have an overall negligible, short-term, localized cumulative effect on transportation in the CESA.

Temporary restrictions on public access around active drilling and during road improvement or maintenance operations for some segments of roads in the Proposed Action area may inconvenience the public if they choose to access these roads. However, no changes to public access roads would occur outside of the Proposed Action boundary. There are no known public access restrictions from past, present, or RFFAs in the CESA. The cumulative impacts from the Proposed Action Alternative in addition to past, present, and RFFAs would have a negligible, temporary, localized cumulative effect on access in the CESA.

3.3.5.2. *Cumulative Effects of the No Action Alternative*

Under the No Action Alternative, the Proposed Action would not be developed and the associated impacts on transportation and access would not occur. Cumulative effects that include the No Action Alternative would be less than the Proposed Action since additional traffic or access changes from that alternative would not occur. Overall, cumulative effects on transportation and access from past, present, and RFFAs including the No Action Alternative are expected to be negligible, temporary, and localized.

3.3.6. Vegetation

3.3.6.1. *Cumulative Effects of the Proposed Action Alternative*

The CESA for vegetation and noxious weeds is the Blue Wing Seven Troughs and Majuba Grazing Allotments. Past, present, and RFFAs for this CESA were described in Section 3.3.2.

Actions that directly remove vegetation during ground-disturbing development have the potential to introduce or spread noxious weeds and non-native invasive plant species. These actions include the construction of mines, roads, utilities, and associated infrastructure. Noxious weeds and non-native invasive plant species are often the first species to establish, especially along road

corridors and where vehicles travel off-road. Vehicles that travel off-road can spread seeds of noxious weeds and non-native invasive plant species, and roads create access into areas that might not otherwise have been accessible.

Reclamation and revegetation required for projects on public land would minimize long-term impacts on vegetation. Noxious weeds and non-native invasive plant species are more likely to be established in disturbed areas; therefore, successful reclamation limits the spread of these species. Indirect impacts from past and present disturbances include impacts from fugitive dust, which can cover leaves, thereby reducing photosynthesis. Surface disturbance from off-road recreation and livestock trampling can remove or degrade the vegetative layer and can result in increased erosion.

Agriculture replaces native vegetation with crop plants, and agricultural practices can lead to increased soil erosion and fugitive dust generation, affecting adjacent vegetation cover. Livestock and some wildlife grazing can impact vegetation communities through the intensity of grazing, which removes herbaceous undergrowth, and through the introduction and spread of noxious weeds and non-native invasive plant species. Wildland fires can dramatically change vegetation communities, often from shrublands to grasslands, with impacts throughout the CESA. RFFAs in the CESA would lead to similar disturbances and impacts as stated in past and present actions.

The Proposed Action would increase disturbance within the CESA by 386.59 acres (of which 364.64 acres would occur on public lands). The total disturbances, in addition to disturbances associated with past, present, and RFFAs, would be 102,678 acres, which is approximately 6.2 percent of the CESA. This increased disturbance from the Proposed Action is negligible within the CESA. Most projects in the CESA would require reclamation after the projects are complete; therefore, most of the past, present, and RFFA disturbances are not permanent in nature. Both reclaimed and un-reclaimed disturbance from past, present, and RFFAs, including the Proposed Action Alternative would have a negligible, long-term, localized effect on vegetation resources.

3.3.6.2. *Cumulative Effects of the No Action Alternative*

Under the No Action Alternative, the Proposed Action would not be developed, and the associated impacts to vegetation resources would not occur. The cumulative effects on the vegetation CESA that include the No Action Alternative would be less than the Proposed Action since additional surface disturbance from that alternative would not occur. Overall, the cumulative effects on vegetation from past, present, and RFFAs, including the No Action Alternative, are expected to be negligible, short-term, and localized.

3.3.7. Water

3.3.7.1. *Cumulative Effects of the Proposed Action Alternative*

The Proposed Action (and No Action Alternative) was determined to have a negligible impact on surface water and wetlands. Details of this analysis are provided in the SER for Water and Wetlands (BLM 2025p). Therefore, a cumulative analysis for these resources was not analyzed in detail as there would be no impact to add to the environment. The remainder of this section discusses cumulative groundwater quantity impacts. Cumulative impacts on water resources are defined by the cumulative groundwater uses within the CESA. Data for groundwater uses was obtained from NDWR (NDWR 2023a, 2023b).

The water CESA, which is 2,008,960 acres, encompasses two NDWR hydrographic basins: Granite Springs Valley hydrographic basin and Black Rock Desert hydrographic basin. Current committed groundwater uses in the CESA include irrigation, domestic, mining, milling and dewatering, quasi-municipal, and stockwater. The majority of committed water use in the CESA is from mining, milling, and dewatering, totaling 20,803.9 afy, which is about 60 percent of the combined perennial yield of the CESA. Groundwater committed to irrigation use is the next largest use in the CESA, and totals 16,482 afy, which is about 48 percent of the CESA. Actual pumpage rates in the CESA are about half of the committed groundwater pumpage (NDWR 2024).

The types of committed groundwater uses in the CESA would be expected to continue in the future, though the quantities of committed and actual groundwater use may vary. The rate of actual groundwater use over time is increasing in the Granite Springs Valley hydrographic basin and decreasing in the Black Rock Desert hydrographic basin (NDWR 2024), for an overall increase of actual groundwater use in the CESA. Regional declines in precipitation also contribute negatively to groundwater yields.

The Proposed Action would use an estimated 45,000 to 270,000 gpd of groundwater with an average of 80,000 gpd (0.13 - 0.83 acre-feet/day with an average of about 0.25 acre-feet/day) during active drilling periods. The water would be pumped from permitted and proposed water supply wells within the CESA. This estimated daily rate of pumping by the Proposed Action Alternative would range from less than 0.00029 percent to 0.0027 percent of the daily groundwater yield in the CESA. The cumulative effect of past, present, and RFFAs, including the Proposed Action Alternative, would have a negligible, short-term, localized effect on groundwater in the CESA.

3.3.7.2. *Cumulative Effects of the No Action Alternative*

Under the No Action Alternative, the Proposed Action would not be developed, and new impacts on groundwater resources would not occur. The cumulative effects on the groundwater CESA that include the No Action Alternative would be less than the Proposed Action since additional water use from that alternative would not occur. Overall, the cumulative effects on groundwater from past, present, and RFFAs, including the No Action Alternative, are expected to be negligible, short-term, and localized.

3.3.8. Wildlife

3.3.8.1. *Cumulative Effects of the Proposed Action Alternative*

Past, present, and RFFA disturbances within wildlife CESAs are detailed in **Table 3-3** and include mineral development, exploration, and notice level projects, sand and gravel and other material site development, utilities, infrastructure, and public purpose developments, oil, gas, solar, and geothermal developments, transmission and communication ROWs, roads, railroad, livestock grazing, agricultural use, recreation, and wildfires. Reclamation activities may also occur in the CESAs in the future. The cumulative effects are discussed below for each of the wildlife CESAs.

<u>General Wildlife and Big Game</u>

The CESA for general wildlife and big game is 2,482,104 acres. Within this CESA there is an estimated 136,108 acres of disturbance associated with past, present, and RFFAs, which is a disturbance of approximately 5.5 percent of the CESA.

Activities such as mineral exploration and development, oil and gas, geothermal and solar project development, and utilities and public works impact wildlife through a variety of means, including habitat loss, habitat fragmentation, disruption of migration, introduction of invasive species, and direct impacts (e.g., roadkill). These developments also require a transportation and infrastructure network, which segments habitats and serves as a vector for the introduction of invasive species. Roads, utilities, and fences can be physical barriers to wildlife movement. Operations and maintenance activities that cause movement and noise can also lead to behavioral changes in wildlife. Agriculture removes native wildlife habitat and replaces native vegetation with crops. Croplands provide less suitable habitat and foraging grounds for wildlife species.

Wildlife protection measures can decrease impacts on wildlife. Roads can be planned to be consolidated and routed around high-quality habitat. Speed limits can limit the risk of direct take, in addition to reducing the behavioral avoidance of noise. Fencing can be limited to the minimum required, enclosing discrete parcels rather than range-wide divisions. Reclamation can restore habitat after the activity is complete. Project design can also incorporate elements to minimize the impacts on wildlife, such as preventing wildlife access to waste or artificial ponds.

Wildland fires can cause direct mortalities to wildlife but also have long-term impacts from changing vegetation. Fires can also dramatically shift available habitat, removing shrub species that some wildlife rely on. However, under certain circumstances in fire-adapted communities, wildland fires also can positively benefit individual bird species by transitioning habitat from shrublands to grassland communities. Fires can also increase habitat heterogeneity under some circumstances and provide important diversity in static climax ecosystems. Prolonged drought can also impact wildlife by decreasing water availability throughout the region.

Past and present recreation activities can impact wildlife through disturbance of habitat, or cause wildlife to avoid certain areas. Dispersed recreation can also serve as a vector for invasive species. Both recreation and livestock grazing activities can disturb nesting birds, degrade potential nesting and foraging habitat, and crush ground nests or burrows. Past and present livestock grazing within the CESA can change vegetation abundance and influence dominant cover types. Particularly around areas of high-density use, such as water sources, livestock can degrade habitat and promote soil erosion. RFFAs would lead to similar disturbances and impacts as stated for past and present actions.

The cumulative effects of past and present actions on general wildlife and big game would primarily be related to direct habitat loss, habitat degradation, habitat fragmentation, and animal displacement. Mule deer and pronghorn populations that occur in the CESA would continue to occupy their respective ranges; however, as a result of past or present actions and RFFAs, big game populations may decrease in size, and modify their migration movements or timing. Past and present anthropogenic activities may already be contributing to impacts on big game patterns as well as habitat fragmentation.

Under the Proposed Action, additional habitat loss, fragmentation, and displacement would occur and may decrease the survival rates of affected individuals and increase competition. Big game and other wildlife may avoid areas of activity, leading to changes in movement patterns or increased competition in adjacent areas. The Project would incrementally increase disturbance to

big game habitat by an additional 386.59 acres (of which 364.64 acres would occur on public lands). The total disturbances in the CESA in addition to disturbances associated with past, present, and RFFAs, would be 136,494 acres, or 5.5 percent of the CESA. This increased disturbance from the Proposed Action is negligible within the CESA. The cumulative effects on general wildlife and big game within the CESA from the past, present, and RFFAs including the Proposed Action, would be negligible, short-term to long-term, and localized.

Raptors and Migratory Birds

The CESA for raptors and migratory birds is 31,031 acres. Special status bird species are described in Section 3.3.10. Within this CESA, there is an estimated 176 acres of disturbance associated with past, present, and RFFA disturbances, which is a disturbance of approximately 0.6 percent of the CESA. Of the past and present disturbances, there are 58 acres of past and present mine exploration and notice level projects in the CESA and 40 acres of past and present sand and gravel and other material developments. Approximately 17,845 acres of the CESA have experienced wildfires in the past. Recreation and livestock grazing also occur in the CESA. RFFAs are limited to one utility project (0.1 acres). Recreation, livestock grazing, and the potential for wildfires would also be expected to continue in the future.

Past and present activities in the CESA may impact raptors and migratory birds primarily through habitat loss and fragmentation. Habitat losses also impact prey species of raptors, potentially impacting raptor foraging behavior or territories. Structures can create artificial nesting or roosting habitats, which (depending on type) could be beneficial or harmful to species. These impacts change the predator and prey relationships for the CESA. Disturbances to raptor or bird nests or breeding behavior could occur from noise and human activity associated with recreation or construction or operations of development activities in the CESA.

Livestock and rangeland management can also impact birds directly and indirectly. The intensity of grazing can change vegetation composition in the CESA. Nests can be trampled. Important habitat features, such as water sources, can be altered from grazing, causing increased erosion or changes in water runoff which would result in other indirect habitat impacts.

RFFAs would lead to similar disturbances and impacts as stated for past and present actions.

The cumulative effects on raptors and migratory birds from the Proposed Action Alternative would include increased noise, human activity, and additional habitat loss and fragmentation. Millennial's BBCS was developed to minimize and avoid impacts to raptors and birds and avoid the incidental take of golden eagles. The BBCS describes measures to reduce the potential for avian injury or mortality, avoid the potential for take by implementing protection measures and BMPs, identify and isolate where avian mortality has occurred or has the potential to occur to minimize future incidents, establish a reporting system to document incidents of mortality resulting from project-related features, and assist Millennial in compliance with state and federal laws regarding avian and bat species to avoid penalties and fines.

The Proposed Action Alternative would incrementally increase disturbance to bird habitat by an additional 386.59 acres (364.64 acres of which would occur on public lands). The total disturbance in the CESA from past, present, and RFFAs including the Proposed Action Alternative would be 562 acres, or 1.8 percent of the CESA. The Proposed Action would increase the percent total disturbance in the migratory bird and raptor, CESA by a minor amount. Overall, the cumulative effects from the past, present, and RFFAs including the Proposed Action

Alternative would have minor, long-term, and localized effects on raptors and migratory birds in the CESA.

3.3.8.2. *Cumulative Effects of the No Action Alternative*

Under the No Action Alternative, the Proposed Action would not be developed and the associated impacts on wildlife would not occur. Cumulative effects on wildlife CESAs that include the No Action Alternative would be less than the Proposed Action since additional surface disturbances and associated noise and human activity from that alternative would not occur. Overall, cumulative effects on wildlife from past, present, and RFFAs including the No Action Alternative are expected to be minor, long-term, and localized.

3.3.9. Special Status Species

3.3.9.1. *Cumulative Effects of the Proposed Action Alternative*

Greater Sage-Grouse

The CESA for Greater sage-grouse is 102,753 acres. Within this CESA there is an estimated 664 acres of disturbance associated with past, present, and RFFA disturbances, which is a disturbance of approximately 0.6 percent of the CESA.

Of the past and present activities in the CESA, mineral exploration disturbances have totaled 113 acres. Other past and present activities include sand and gravel and other material site disturbances (310 acres), roads (229 acres), and utilities, public infrastructure, and airports (12.4 acres). These types of disturbances may have impacted Greater sage-grouse by causing habitat loss, habitat fragmentation, and displacement from increased human activity and noise. Other indirect impacts may have included the introduction of invasive species, increased predation, and decreased nesting success. Activities that cause movement and noise can also lead to the displacement of individuals to less suitable habitats. Similar to those described for general wildlife and big game, livestock grazing within the CESA can alter vegetation abundance and influence dominant cover types, especially around water resources.

EPMs can reduce some of these impacts to the Greater sage-grouse. In addition to the measures described above for general wildlife and big game, design features can minimize development or routing through occupied habitats, and reduced speed limits can limit direct take. Anti-perch structures of fencing and utility poles can reduce impacts from raptor predation. Sound-reduction technologies can minimize impacts from noise. Reclamation can help restore the Greater sage-grouse habitat after activities are complete.

The cumulative effects on Greater sage-grouse from the Proposed Action Alternative would temporarily increase habitat loss and degradation. The Proposed Action is within PHMA, GHMA, and OHMA. As required by the CCS program, credits to offset the calculated debits would be purchased ahead of the Notice to Proceed. The Project would incrementally increase disturbance to Greater sage-grouse habitat by an additional 386.59 acres (364.64 acres of which would be on public land). Disturbances to PHMA, GHMA, or OHMA from the Proposed Action Alternative would be less than this amount because not all disturbances from the Proposed Action would occur within one type of habitat management area within the Proposed Action boundary.

There are 10 Greater sage-grouse leks within the CESA, but none of the leks were active based on the 2022 baseline surveys and recent NDOW records. Cumulative noise levels would increase in the CESA from the Proposed Action but would not be expected to affect active leks because there are no active leks within four miles of the Proposed Action. In addition, Millennial has established EPMs, as detailed in the SIR (BLM 2025a), to avoid noise effects on leks should they become active in the future.

Overall, the cumulative effect of past, present, and RFFAs, including the Proposed Action Alternative, would have a negligible, long-term, and localized effect on Greater sage-grouse within the CESA.

Special Status Bats

The CESA for bats is 31,031 acres. This CESA is the same as for raptors and migratory birds. Details about this CESA are described in Section 3.3.8. Past and present activities in the CESA may impact bats primarily through habitat loss and fragmentation. Day and night bat roosts occur within the CESA and could also be disrupted by noise and human activity. Livestock and wildland fires can also impact bats indirectly through changes in foraging habitat and changes in vegetation structure. RFFAs would lead to similar disturbances and impacts as stated for past and present actions.

The cumulative effects on bats from the Proposed Action would include increased noise, human activity, and additional habitat loss and fragmentation. Millennial's BBCS was developed to minimize and avoid impacts on bats (and birds). The BBCS describes measures to reduce the potential for bat injury or mortality, including roost protection measures, identifying and isolating a process to describe where bat mortality has occurred or has the potential to occur to minimize future incidents. The BBCS establishes a reporting system to document incidents of mortality resulting from project-related features and assist Millennial in compliance with state and federal laws regarding avian and bat species to avoid penalties and fines.

The Project would incrementally increase disturbance to bat habitat by the same amount as for raptors and birds as described in Section 3.3.8. Overall, the cumulative effects from the past, present, and RFFAs including the Proposed Action Alternative, would have minor, long-term, and localized effects on special status bats in the CESA.

Special Status Species Raptors and Migratory Birds

The CESA for special status raptors and migratory birds is the same as for general raptors and migratory birds. The effects on special status bird species would be expected to be the same as described in Section 3.3.8. The BBCS describes measures to reduce the potential for avian injury or mortality, including avoiding the potential for golden eagle take by implementing protection measures and BMPs. With the implementation of the measures described in the BBCS, golden eagle take would not be expected and impacts to other special status birds and raptors would be negligible.

Overall, the cumulative effects from the past, present, and RFFAs, including the Proposed Action Alternative, would have minor, long-term, and localized effects on special status raptors and birds in the CESA.

Special Status Plants

The CESA for special status plants is the same as for vegetation and is described in Section 3.3.6. The effects on special status plant species would be expected to be the same as for general vegetation as described in Section 3.3.6. Actions that directly remove vegetation during ground-disturbing development have the potential to introduce or spread noxious weeds and non-native invasive plant species. The effects on noxious weeds or invasive species can further impact special status plant species. No special status plant species were observed in the Proposed Action boundary during baseline surveys. The cumulative effect of disturbances from past, present, and RFFAs including the Proposed Action Alternative would have a negligible, short-term, localized effect on special status plants.

3.3.9.2. *Cumulative Effects of the No Action Alternative*

Under the No Action Alternative, the Proposed Action would not be developed and the associated impacts on special status species would not occur. The cumulative effects on special status species CESAs that include the No Action Alternative would be less than the Proposed Action since additional surface disturbances would not occur, and for wildlife, the additional associated noise and human activity from that alternative would also not occur. Overall, cumulative effects on special status species from past, present, and RFFAs, including the No Action Alternative, are expected to be minor, long-term, and localized for special status wildlife and negligible, short-term, and localized on special status plants.

3.3.10. Wild Horses and Wild Burros

3.3.10.1. *Cumulative Effects of the Proposed Action Alternative*

Of the 148,884 acres in the CESA, 2,085 acres of disturbance are associated with past, present, and RFFAs. These disturbances are approximately 1.4 percent of the CESA. Past and present disturbances, as detailed in **Table 3-3**, have resulted from mineral development, exploration, and notice level projects (1,059 acres), sand and gravel and other material site development (778 acres), utilities, infrastructure, and public purpose developments (22 acres), roads (226 acres), recreational uses, and livestock grazing. Additionally, approximately 37,227 acres within the CESA have been affected by recent and past wildland fires. RFFAs in the CESA include utilities (0.1 acres) and geothermal exploration (0.01 acres) in addition to continued recreational uses, livestock grazing, reclamation projects, agricultural uses, and the potential for wildland fires.

Mineral development and exploration activities, utilities, infrastructure, and public purpose sites that occur within the CESA can negatively impact wild horse and burro habitat directly through the removal of forage cover, and habitat fragmentation, and indirectly result in habitat degradation through the spread of noxious and invasive, non-native plant species, which could further reduce habitat quality. If reclamation activities are not conducted following these activities, habitat quality could be lost; however, reclamation is required for disturbance on public lands. Operations and maintenance activities that cause movement and noise also can lead to behavioral changes in wild horses and burros.

Roads, utilities, and fences can be physical barriers to wild horse and burro movement. Road disturbance may result in long-term soil compaction that occurs on or adjacent to the roadway. This environment has the potential to introduce or spread noxious and invasive, non-native plant species throughout the CESA. Vehicles traveling on roadways also have the potential to collect

and disperse seeds throughout and beyond the extent of the CESA. The spread of noxious and invasive, non-native plant species could reduce the quality of the habitat in adjacent land. Vehicle traffic on roads could also lead to direct impacts on wild horses and burros from collisions.

Impacts from wildland fires alter vegetation communities, which creates opportunities for noxious and invasive, non-native plant species to invade, become established, and spread. Wildland fires can also remove the shrub and tree components from vegetation communities and allow grasses and forbs to dominate for a period of time, and depending on the herbaceous species that re-establish, may improve or degrade forage availability for wild horses and burros.

RFFAs would lead to similar disturbances and impacts as stated in past and present actions.

Approval of the Proposed Action would increase disturbance within the CESA by 386.59 acres (364.64 acres of which would be on public land). The total disturbances, in addition to disturbances associated with past, present, and RFFAs would be 2,472 acres, which is approximately 1.7 percent of the CESA. This increased disturbance from the Proposed Action Alternative is negligible within the CESA. Much of the past, present, and reasonably foreseeable surface disturbance would be reclaimed following the actions, including the Proposed Action, therefore decreasing the potential impacts on wild horses and burros. The cumulative effects from past, present, and RFFA disturbances including the Proposed Action Alternative, would have negligible, long-term, localized effects on wild horses and wild burros in the CESA.

3.3.10.2. *Cumulative Effects of the No Action Alternative*

Under the No Action Alternative, the Proposed Action would not be developed and the associated impacts to wild horses and wild burros would not occur. Cumulative effects on the wild horse and wild burro CESA that include the No Action Alternative would be less than the Proposed Action since additional surface disturbances and associated noise and human activity from that alternative would not occur. Overall, cumulative effects on wild horses and wild burros from past, present, and RFFAs including the No Action Alternative are expected to be negligible, long-term, and localized.

3.3.11. Visual Resources

3.3.11.1. *Cumulative Effects of the Proposed Action Alternative*

Of the 134,264 acres in the CESA, 754 acres of disturbance are associated with past, present, and RFFAs. These disturbances are approximately 0.6 percent of the CESA. Past and present disturbances, as detailed in **Table 3-3**, have resulted from mineral development, exploration, and notice level projects (113 acres), sand and gravel and other material site development (310 acres), utilities, infrastructure, and public purpose developments (12 acres), roads (318 acres), recreational uses, and livestock grazing. Additionally, approximately 77,054 acres within the CESA have been affected by recent and past wildland fires. RFFAs in the CESA include utilities (0.1 acres), in addition to continued recreational uses, livestock grazing, reclamation projects, agricultural uses, and the potential for wildland fires.

Notice-level mineral exploration and sand and gravel material sites would have temporary and negligible to minor topographic changes associated with these actions, and associated changes in vegetation, texture, and landscape color. Utilities and roads disrupt the visual landscape with

form and line elements. Reclamation following these uses would be expected to re-establish native vegetation and the natural topography. Recreation can impact visual resources through the establishment of trails, which can be visible from long distances and are easily formed from disturbance of the soil with relatively low levels of activity. Concentrated recreational areas, such as campgrounds, also disrupt the visual landscape. Wildland fires can impact visual resources primarily through changes in texture and color elements. Fire is also patchy, altering the visual landscape in apparently random paths. This can be recognized in the long term, with different neighboring successional stages of vegetation communities visible throughout the CESA. RFFAs would have similar impacts as stated for past and present actions.

Approval of the Proposed Action Alternative would increase disturbance within the CESA by 386.59 acres (364.64 acres of which would be on public land). The total disturbances, in addition to disturbances associated with past, present, and RFFAs would be 1,141 acres, which is approximately 0.8 percent of the CESA. This increased disturbance from the Proposed Action is negligible within the CESA. Cumulative effects on visual resources in the CESA from the Proposed Action in combination with past, present, and RFFAs would include changes in line, form, color, and texture elements that would contrast with the existing landscape. These changes would be largely discernable from foreground to mid-background distances within the CESA. Natural topographic contours may shield the viewer from some areas of activity from the Proposed Action. The Proposed Action would increase the direct effects of contrast (i.e., minor color contrast and minor line and form contrast) with the existing landscape by increasing visual impacts in the CESA. The effects of past, present, and RFFAs including the Proposed Action would blend with existing disturbances and would have a minor, short-term, and localized effect on visual resources in the CESA. Reclamation activities would reduce the visual impacts of the Proposed Action.

3.3.11.2. *Cumulative Effects of the No Action Alternative*

Under the No Action Alternative, the Proposed Action would not be developed and the associated effects on visual resources would not occur. Cumulative effects on the visual CESA that include the No Action Alternative would be less than the Proposed Action since additional surface disturbances from that alternative would not occur. Overall, cumulative effects on visual resources from past, present, and RFFAs including the No Action Alternative are expected to be negligible, short-term, and localized.

CHAPTER 4. PUBLIC INVOLVEMENT, CONSULTATION AND COORDINATION

4.1. Public Involvement

A public comment period was held from June 3, 2024, through July 2, 2024. The BLM received eight comment letters during this comment period. Comments and responses are included in **Appendix C** of this EA. EA comments were primarily focused on grazing, water, cultural resource protection, and impacts on wildlife. Responses to comments and other final edits and review of this document resulted in minor editorial corrections, clarifications, and additional information regarding reclamation procedures, range improvements, and monitoring plans. The clarifications and additional information are described in the response to comments. Following the comment period, revisions to the SERs and EA were completed and these changes are described in the comment responses.

4.2. Consultation and Coordination

During the NEPA process for this EA, the BLM consulted and coordinated with other federal agencies, state and local governments, Native American tribes, and the interested public. DOI regulations (43 CFR 46.310 (a)(5)) require BLM to list agencies and persons consulted.

The BLM HRFO is the lead federal agency for preparing the EA in compliance with NEPA, the BLM's NEPA Handbook, and other applicable guidance. To prepare this EA, the following entities were invited to coordinate on this EA:

- USFWS
- USEPA
- Nevada SHPO
- Nevada Department of Conservation and Natural Resources
- NDEP
- NDOW
- Pershing County

The NDOW formally agreed to be a cooperating agency preparing this EA. The NDEP and the Department of Conservation and Natural Resources Sagebrush Ecosystem Technical Team (SETT) have agency-wide Memoranda of Understanding (MOUs) with the BLM for coordination on NEPA projects and participated via these existing MOUs. The cooperating agencies provided input during the development of the EA. Other contacted agencies either declined or did not respond to the invitation.

The federal government works on a government-to-government basis with Native American tribes. This relationship was formally recognized on November 6, 2000, with EO 13175 (Federal Register, Volume 65, page 67249). As a matter of practice, the BLM coordinates with all tribal governments, associated native communities and organizations, and tribal individuals whose interests might be substantially affected by activities on public lands.

In addition, Section 106 of the NHPA requires federal agencies to consult with Indian tribes for undertakings on tribal lands and for historic properties of significance to the tribes that would be affected by an undertaking (36 CFR 800.2(c)(2)). BLM Manual 1780 and BLM Handbook H-1780-1 provide guidance for Native American consultations.

EO 13175 stipulates that during the NEPA process, federal agencies must consult tribes identified as being substantially affected. The BLM has been in contact with tribal governments throughout the development of the Proposed Action.

The BLM invited the following tribes to be consulted for the Project:

- Fort McDermitt Paiute-Shoshone Tribe

- Fallon Paiute-Shoshone Tribe
- Lovelock Paiute Tribe
- Pyramid Lake Paiute Tribe
- Reno-Sparks Indian Colony
- Summit Lake Paiute Tribe
- Winnemucca Indian Colony

The Fort McDermit Paiute-Shoshone Tribe requested a site visit to the Proposed Action boundary with the BLM. A site visit was tentatively planned for August but was canceled due to weather.

CHAPTER 5. LIST OF PREPARERS

Table 5-1. The BLM Team

Name	Title and/or Document Area of Responsibility
Robert Sevon	Project Manager
John Mitchell	Field Manager
Denis Baldwin	Technical Lead
Alex Potts	Hazardous Materials/Solid Waste
Alana Basso and Denis Baldwin	Geology
Alana Basso and Denis Baldwin	Soils
Michael McCampbell	Noxious Weeds and Invasive Non-native Species
Kathy Torrence	Lands with Wilderness Characteristics
Cedric Streater	Cultural; Paleontology
Frank Giles	Air, Noise
Jeanette Black	Water, Wetlands
Katerina Lozano	Wildlife, Vegetation, Special Status Species
Matt Fockler	Socioeconomics
Mike Kizorek	Visual, Recreation
Morgan Weigand	Wild Horses
Shannon Deep	Native American Concerns
Susan Grande	Assistant Field Manager Lands & Realty
Wes Barry	Grazing Management/Range Resources

Table 5-2. Cedar Creek Associates Inc.

Name	Title and/or Document Area of Responsibility
Penny Hunter	Project Manager
Jesse Dillon	Biological Lead
Barbi Harmon	Cultural Lead (Kautz Environmental Consulting, Inc)

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