Finding of No Significant Impact

for the Issuance of Long-Term Incidental Eagle Take Permits
for the Cortez and Phoenix Mine Projects

Nevada

May 2024

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Introduction

The U.S. Fish and Wildlife Service (Service) received applications from Nevada Gold Mines LLC (NGM; Applicant) requesting eagle take coverage under the Bald and Golden Eagle Protection Act (Eagle Act) (16 U.S.C. §§ 668-668d and 50 Code of Federal Regulations [CFR] § 22.80) for incidental take of eagles at the Cortez Mine and Phoenix Mine (Projects). The Applicant will be continuing previously authorized mining activities at both Projects. The Cortez Mine is located approximately 60 miles southeast of Battle Mountain in Lander County, Nevada and the Phoenix Mine is located approximately 12 miles southwest of Battle Mountain in Lander County, Nevada. Both Project areas have historically experienced intensive mining activities with similar contemporary levels of activities continuing for at least 30 more years. The Applicant has requested a long-term (30-year) incidental take permit for each Project for golden eagles (*Aquila chrysaetos*) under the Eagle Act; such that reoccurring disturbance may result in loss of annual productivity at the Cortez (four breeding golden eagle pairs) and Phoenix (two breeding golden eagle pairs) mines. Issuance of a permit by the Service for take that is incidental to otherwise lawful activities under the Eagle Act constitutes a discretionary Federal action that is subject to the National Environmental Policy Act (NEPA; 42 United States Code [U.S.C.] §§ 4321 et seq.).

In accordance with the NEPA, we prepared an Environmental Assessment (EA) analyzing the environmental consequences of issuing permits for the take of golden eagles associated with the Project, as well as alternatives to this proposed action (Attachment 1). The EA assists the Service in ensuring compliance with the NEPA and in making a determination as to whether any "significant" effects to the environment not previously analyzed under the Service's Programmatic Environmental Impact Statement for the Eagle Rule Revision, December 2016 (PEIS; USFWS 2016) could result from the analyzed actions, which would require preparation of an Environmental Impact Statement. Considering "significance" under NEPA is addressed by regulation 40 CFR § 1501.3, and requires we analyze the potentially affected environment and degree of the effects of the action. Effects of the action may be direct, indirect, or cumulative (40 CFR 1508.1(g)).

The Service's purpose in considering the proposed action of issuing two eagle incidental take permits is to fulfill our authority under the Eagle Act (16 U.S.C. §§ 668-668d) and its regulations (50 CFR § 22). Applicants whose otherwise lawful activities may result in take of eagles can apply for incidental eagle take permits so that their projects may proceed without potential violations of the Eagle Act. We may issue permits for eagle take that is associated with, but not the purpose of, an activity. Such permits can be issued by us when the take that is authorized is compatible with the Eagle Act preservation standard; it is necessary to protect an interest in a particular locality; and it is associated with, but not the purpose of, the activity; and it cannot be practicably avoided (50 CFR § 22.80 and 81 Federal Register [FR] 91494).

The need for this federal action is a decision on eagle incidental take permit applications from NGM that are in compliance with all applicable regulatory requirements set forth under the Eagle Act in 50 CFR § 22.

Proposed Action and Alternatives Considered

In the EA, the Service fully analyzed two potential courses of action, summarized below, to respond to the Applicant's request for an incidental eagle take permit.

Proposed Action

The Service proposed to issue two 30-year incidental eagle take permits, with associated conditions, to NGM for: 1) the loss of productivity resulting in 2.36 eagles per year, or 70.8 eagles during the course of a 30-year permit, at the Cortez Mine; and 2) the loss of productivity resulting in 1.18 eagles per year, or 35.4 eagles during the course of a 30-year permit, at the Phoenix Mine. This loss of breeding productivity is derived from an estimated loss of 0.59 young fledged from each golden eagle breeding pair each year from the eagle population. The permit would require implementation of measures to avoid and minimize eagle take, monitoring of eagle territory occupancy and breeding productivity, and compensatory mitigation to fully offset the estimated take.

Alternative 1: No Action

Under the No-Action Alternative, the Service would take no further action on NGM's incidental eagle take permit application.

Public Scoping and Tribal Coordination

Scoping regarding issuance of eagle take permits was performed for the PEIS (USFWS 2016). This Finding of No Significant Impact and attached EA is being made public on the Service's regional webpage[1] following posting of the EA for at least 30 days of public review prior to the Service considering issuance of the permits.

To notify Tribes regarding potential issuance of the permits, the Service sent letters to 11 federally recognized tribal governments located within 109 miles (the natal dispersal distance of golden eagles thought to adequately define the local area population of the eagles) of the Projects informing them of the received permit applications and preparation of the EA and offering the opportunity for formal consultation regarding potential issuance of the permit. One Tribe responded through the Service's California Great Basin Regional Native American Liaison and a Government-to-Government in-person meeting for additional information was held March 24, 2023. The Tribal Council and tribal members expressed opposition to activities the BLM had already authorized for the Cortez and Phoenix Projects and the Service's potential issuance of

[1] https://www.fws.gov/library/collections/pacific-southwest-region-nepa-documents-eagle-permits

incidental take permits. The Service takes these concerns seriously and has attempted to clarify that the current actions proposed under this EA are intended to maintain NGM's compliance with the Eagle Act for previously authorized activities, and the resulting compensatory mitigation would serve to reduce population level impacts to golden eagles compared to conditions resulting from the No Action Alternative or permit denial. The Service received no response from any of the other Tribes contacted.

Selected Alternative

Based on review of the analyses detailed in the EA, the Service selected the Proposed Action of issuing 30-year incidental eagle take permits to NGM for disturbance resulting in loss of productivity at four golden eagle breeding pairs at the Cortez Mine and two golden eagle breeding pairs at the Phoenix Mine, with the requirement to implement avoidance and minimization measures, conduct eagle monitoring, and provide compensatory mitigation to fully offset the estimated take.

Disturbance take of golden eagles is predicted to occur under all alternatives, however the Proposed Action fully offsets the take with required compensatory mitigation, and includes additional eagle breeding productivity monitoring, which would not be required under the No-Action Alternative.

The Proposed Action is consistent with the purpose and need for this Federal action and is in compliance with all statutory (16 U.S.C. §§ 668-668d) and regulatory requirements (50 CFR § 22.80 and 50 CFR § 13.21), including the criteria codified for permit issuance (50 CFR § 22.80(f)).

Determining Significance

When considering whether the effects of the Proposed Action are significant, regulations of the NEPA require agencies to "analyze the potentially affected environment and degree of the effects of the action" (40 CFR § 1501.3(b)). This includes considering the extent of the potentially affected area (national, regional, or local) and its resources, as appropriate to the specific action. Further considerations for the degree of the effects include both short- and long-term effects, both beneficial and adverse effects, effects on public health and safety, and effects that would violate Federal, State, Tribal, or local law protecting the environment (40 CFR § 1501.3(b)). Below we examine these considerations for the selected Proposed Action.

Potentially Affected Environment

For purposes of analyzing the selected Proposed Action, the appropriate affected environment associated with the Proposed Action is local and regional, because the Proposed Action does not

affect statewide or national resource values. Analyses of effects at the local and regional scale are provided in the EA.

Golden eagles are the resource in the affected area most likely to be affected by the Proposed Action of issuance of the requested eagle take permit. Four golden eagle breeding pairs are currently nesting in the vicinity of the Cortez Mine, and two breeding pairs in the vicinity of the Phoenix Mine, which all may be disturbed by their current and future mining activities. However, as discussed in the EA and below, the Applicant will implement conservation measures to minimize the risk to eagles and will offset golden eagle take through compensatory mitigation.

Bald eagles (*Haliaeetus leucocephalus*) are known to occur in the region but are not expected to be affected by Project construction activities as no bald eagle nests have been identified in the vicinity of either Project. Bald eagles in the region may benefit from reduced electrocution risk due to the power pole retrofitting to be completed as offsetting compensatory mitigation for the authorized golden eagle take.

Migratory birds are not expected to be negatively affected by the Proposed Action of issuing an eagle take permit to the Applicant, however migratory birds may incidentally benefit from reduced electrocution risk due to the power pole retrofitting to be done for the eagle take permit.

Authorizing incidental eagle take is not expected to have effects to species protected by the Endangered Species Act (ESA) at either Project. Furthermore, no species listed under the ESA, or potential critical habitat, were found to be present within either Project boundary.

Eagles and their feathers are revered and considered sacred in many Native American traditions. Issuing a permit for disturbance take of eagles is not expected to interfere with cultural practices and ceremonies related to eagles or to affect Native Americans' ability to obtain or use eagle feathers. Moreover, the Service requests any eagle feathers that are found be sent to our repository and, if in good condition, will be made available for these practices. Therefore, we do not anticipate any adverse effect on cultural resources from the Proposed Action.

Degree of the Effects

We have considered the following in evaluating the degree of the effects (40 CFR 1501.3(b)(2)), as appropriate, of the Proposed Action:

1) Both short- and long-term effects.

> Issuance of an eagle take permit for each of the Projects does not set precedent for, or automatically apply, to other eagle take permit applications the Service is reviewing or could review in the future. Each permit request will be evaluated on a case-by-case basis. Therefore, the Proposed Action does not establish precedents for future actions or represent a decision in principle about a future action. Moreover, this Project will not limit the Service's discretion when processing future eagle take permit applications under the Eagle Act's permitting regulations.

The analyses in the EA considered effects to golden eagles at varying temporal scales and considered effects to both local and regional golden eagle populations.

Short-Term Effects. Under the Proposed Action, issuance of the two eagle take permits would authorize disturbance take and loss of productivity of four and two golden eagle pairs at the Cortez and Phoenix mines, respectively, over a 30-year period. However, as described in the EA, the Applicant will implement measures to minimize disturbance to the eagles and decrease the chance of take and will fully offset the estimated take with compensatory mitigation. Analyses provided in the EA indicate the authorized take will have no significant effect on the local eagle population, and as the take will be fully offset with compensatory mitigation, the take will also have no significant effect on regional eagle populations.

Long-Term Effects. Despite disturbance to the eagle pairs, the Projects' activities are not expected to have additional long-term effects to eagles as no golden eagle nests would be physically removed because of the Proposed Action, and the take will be fully offset with compensatory mitigation.

The analyses in the Service's PEIS on issuing incidental eagle take permits provides information and greater certainty in understanding the risks and effects to eagles of issuing incidental eagle take permits now and into the future. Furthermore, surveying and monitoring of eagles that would be required under the Proposed Action provides information and increased certainty in our future assessments of risk to eagles from similar projects and human activities.

2) Both beneficial and adverse effects.

Beneficial Effects. As described in the EA, the Proposed Action includes power pole retrofitting as mitigation for take of eagles. Such retrofits are anticipated to protect eagles from electrocution. As the number of retrofits to be done for mitigation is calculated at a 1.2 to 1 ratio, these avoided eagle electrocutions will more than offset Project-related take of eagles, thereby benefiting the eagle population as a whole. Power pole retrofits are also expected to benefit bald eagles and other raptors that may be susceptible to electrocution. Required monitoring of eagle breeding productivity will also be beneficial as it will support the Service's understanding of impacts from similar projects and human activities in the vicinity of nesting golden eagles. Furthermore, issuance of an incidental eagle take permit will allow the Applicant to operate in compliance with the Eagle Act.

Adverse Effects. As described in the EA, under the Proposed Action the Applicant would implement conservation measures to minimize the risk to eagles. However, the loss of annual productivity of up to six golden eagle breeding pairs in the vicinity of the two Projects may occur due to disturbance from their associated activities over the 30-year permit period. The Applicant will offset this eagle take through compensatory mitigation. This will ensure that the impacts of issuing an eagle take permit on the local and regional golden eagle population will not be significant.

3) Effects on public health or safety.

The Proposed Action would include mitigating eagle take by retrofitting power poles to prevent eagle electrocutions. As eagle and other raptor electrocutions on power poles can start fires, decreasing eagle and other raptor electrocutions could benefit human safety by reducing fire risk.

4) Effects that would violate Federal, State, Tribal, or local law protecting the environment.

The Proposed Action, issuance of an incidental take permit under the Eagle Act, does not violate any known Federal, State, Tribal, or local law or requirement imposed for the protection of the environment. In addition, the Proposed Action is consistent with applicable Eagle Act, MBTA, and ESA regulations, policies, and programs.

Finding of No Significant Impact

The Service's Migratory Bird Program concludes, based on the analyses outlined in the EA and the information provided above, that the Proposed Action would not cause significant effects on the environment based on criteria established by regulations, policy, and analysis. We conducted analyses of effects at the Project, local area eagle population, and regional Eagle Management Unit scales, and assessed the degree of these effects. The selected Proposed Action is unlikely to have significant impacts on eagles because a significant population-level effect for bald eagles is not expected, all reasonably foreseeable take of golden eagles will be fully offset, cumulative effects do not exceed levels deemed to be incompatible with the preservation of eagle populations, and the Proposed Action meets the Eagle Act's preservation standard and all regulatory requirements (16 U.S.C. §§ 668-668d, 50 CFR § 22.6, 50 CFR § 22.80).

Based on the findings discussed herein, we conclude that the Proposed Action is not a major federal action and will result in no significant impacts to the environment, individually or cumulatively with other actions in the general area. No environmental effects meet the definition of significance in 40 CFR 1501.3. Therefore, preparation of an EIS to further analyze possible effects is not required pursuant to NEPA Section 102(2)(c), and our environmental review under NEPA is concluded with this finding of no significant impact.

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References

16 United States Code (U.S.C.) §§ 668-668d. Title 16 - Conservation; Chapter 5a - Protection and Conservation of Wildlife; Subchapter II - Protection of Bald and Golden Eagles. Available online: http://uscode.house.gov

40 Code of Federal Regulations (CFR) § 1501.3. Title 40 - Protection of Environment; Chapter V - Council on Environmental Quality; Subchapter A – National Environmental Policy Act Emplementing Regulations; Part 1501 – NEPA and Agency Planning; Section (§) 1501.3 – Determine the appropriate level of NEPA review. Available online: https://www.ecfr.gov

42 United States Code (U.S.C.) §§ 4321 et seq. Title 42 - the Public Health and Welfare; Chapter 55 - National Environmental Policy; Subchapters I (Policies and Goals) and II (Council on Environmental Quality); Sections (§§) 4321 et seq. Available online: http://uscode.house.gov

42 United States Code (U.S.C.) §§ 4332. Title 42 - the Public Health and Welfare; Chapter 55 - National Environmental Policy; Subchapter I - Policies and Goals; Section (§) 4332 – Cooperation of agencies; reports; availability of information; recommendations; international and national coordination of efforts. Available online: http://uscode.house.gov

43 Code of Federal Regulations (CFR) § 46.325. Title 43 – Public Lands: Interior; Subtitle A – Office of the Secretary of the Interior; Part 46 – Implementation of the National Environmental Policy Act of 1969; Section (§) 46.325 – Conclusion of the environmental assessment process. Available online: http://uscode.house.gov

50 Code of Federal Regulations (CFR) § 13.21. Title 50 - Wildlife and Fisheries; Chapter I - United States Fish and Wildlife Service, Department of the Interior; Subchapter B - Taking, Possession, Transportation, Sale, Purchase, Barter, Exportation, and Importation of Wildlife and Plants; Part 13 - General Permit Procedures; Section (§) 13.21 – Issuance of permits. Available online: https://www.ecfr.gov

50 Code of Federal Regulations (CFR) § 22. Title 50 - Wildlife and Fisheries; Chapter I - United States Fish and Wildlife Service, Department of the Interior; Subchapter B - Taking, Possession, Transportation, Sale, Purchase, Barter, Exportation, and Importation of Wildlife and Plants; Part 22 - Eagle Permits. Available online: https://www.ecfr.gov

81 Federal Register (FR) 91494. 2016. Eagle Permits; Revisions to Regulations for Eagle Incidental Take and Take of Eagle Nests. Vol. 81, No. 242. December 16, 2016. pp 91494-91554. Available online: https://www.federalregister.gov/

US Fish and Wildlife Service (USFWS). 2016. Programmatic Environmental Impact Statement for the Eagle Rule Revision. December 2016. Available online: https://www.fws.gov/migratorybirds/pdf/management/FINAL-PEIS-Permits-to-Incidentally-Take-Eagles.pdf

Attachment 1

Environmental Assessment for the Issuance of Long-Term Incidental Eagle Take Permits for the Cortez and Phoenix Mine Projects

Environmental Assessment

for the Issuance of Long-Term Incidental Eagle Take Permits
for the Cortez and Phoenix Mine Projects

Nevada

May 2024

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ACRONYMS AND ABBREVIATIONS

Applicant	Nevada Gold Mines LLC
BCI	Barrick Cortez Inc.; now NGM
BLM	Bureau of Land Management
CFR	Code of Federal Regulations
CM	Conservation Measure
Cortez Plan	Cortez Plan of Operations
EA	Environmental Assessment
Eagle Act	Bald and Golden Eagle Protection Act
ECP	Eagle Conservation Plan
EIS	Environmental Impact Statement
EMU	Eagle Management Unit
EPM	Environmental Protection Measure
ESA	Endangered Species Act of 1973, as Amended
IAPP	Industrial Artificial Pond Permit
LAP	Local Area Population
NDOW	Nevada Department of Wildlife
NEPA	National Environmental Policy Act
NGM	Nevada Gold Mines LLC
NHPA	National Historic Preservation Act
PEIS	Programmatic Environmental Impact Statement for the Eagle Rule Revision
permit	Eagle Incidental Take Permit
Phoenix Plan	Phoenix Plan of Operations
Projects	Cortez Mine Project and Phoenix Mine Project
REA	Resource Equivalency Analysis
Service	U.S. Fish and Wildlife Service
Survey Area	Operations Area Plus a 10-Mile Radius for Each of the Cortez and Phoenix Projects
SWReGAP	Southwest Regional GAP Analysis Project
U.S.C.	United States Code
USFWS	U.S. Fish and Wildlife Service

1.0 INTRODUCTION

This Environmental Assessment (EA) has been prepared to analyze the environmental consequences of the U.S. Fish and Wildlife Service (Service or USFWS) issuing two incidental take permits for the take of golden eagles (*Aquila chrysaetos*) associated with both the proposed Cortez Mine Project and Phoenix Mine Project (Projects) pursuant to the National Environmental Policy Act (NEPA) (42 United States Code [U.S.C.] §§ 4321–4347). Issuance of an eagle incidental take permit (permit) by the Service for take that is incidental to otherwise lawful activities under the Bald and Golden Eagle Protection Act (Eagle Act) (16 U.S.C. §§ 668–668d and 50 Code of Federal Regulations [CFR] § 22.80) constitutes a discretionary federal action that is subject to NEPA. This EA assists the Service in ensuring compliance with NEPA and in making a determination as to whether any "significant" impacts could result from the analyzed actions that would require preparation of an Environmental Impact Statement (EIS). This EA evaluates the effects of alternatives for our decision whether to issue the two eagle incidental take permits.

The Eagle Act authorizes the Service to issue eagle take permits only when the take is compatible with the preservation of each eagle species, defined (in USFWS 2016a and 50 CFR § 22.6) as "consistent with the goals of maintaining stable or increasing breeding populations in all eagle management units and the persistence of local populations throughout the geographic range of each species."

The applicant for the permits, Nevada Gold Mines LLC (NGM; Applicant), is requesting Eagle Act take coverage for reoccurring disturbance to and loss of annual productivity from four golden eagle breeding pairs at the Cortez Mine and two golden eagle breeding pairs at the Phoenix Mine for ongoing mining activities associated with the Cortez and Phoenix Plans of Operations. The Applicant has requested a 30-year incidental take permit for each Project for golden eagles under the Eagle Act at the Cortez and Phoenix mines. The Applicant's Eagle Conservation Plans (ECPs) (**Appendix A** and **Appendix B**) are the foundation of the permit applications for the Projects.

The Applicant is requesting separate permits for each Project (i.e., Cortez Mine and Phoenix Mine) to authorize the reoccurring disturbance to and loss of annual productivity (i.e., rearing of young) for the golden eagle breeding territories in and near each Project site. The Applicant is requesting permits for the loss of productivity resulting in three eagles per year, or 71 eagles during the course of a 30-year permit, at the Cortez Mine and two eagles per year, or 36 eagles during the course of a 30-year permit, at the Phoenix Mine. This EA evaluates whether issuance of these two eagle incidental take permits will have significant impacts on the existing human environment. "Significance" under NEPA is defined by regulation at 40 CFR 1501.3(b) and requires short- and long-term consideration of both the context of a proposal and its intensity.

This proposal conforms with, and carries out, the management approach analyzed in, and adopted subsequent to, the Service's Programmatic Environmental Impact Statement for the Eagle Rule Revision, December 2016 (PEIS; USFWS 2016a). Accordingly, this EA tiers from the 2016 PEIS (USFWS 2016a).

Cortez and Phoenix Project-specific information not considered in the PEIS (USFWS 2016a) will be considered in this EA as described below.

1.1 Purpose and Need

The need for this action is a decision on two eagle incidental take permit applications from NGM, one for the Cortez Mine and one for the Phoenix Mine. The decision must comply with all applicable regulatory requirements and be compatible with the preservation of eagles.

1.2 Authorities

Service authorities are codified under multiple statutes that address management and conservation of natural resources from many perspectives, including, but not limited to, the effects of land, water, and energy development on fish, wildlife, plants, and their habitats. This analysis is based on the Eagle Act (16 U.S.C. 668d) and its regulations (50 CFR Part 22). The PEIS (USFWS 2016a) has a full list of authorities that apply to this action (PEIS section 1.6, pages 7–12), which are incorporated by reference here.

1.3 Background

Cortez Mine

NGM has been approved by the Bureau of Land Management (BLM) Battle Mountain District Office to conduct mining activities at the Cortez Mine within the Cortez Plan of Operations (Cortez Plan) boundary (**Figures 1-1** and **1-2**). The Cortez Mine is located in Lander County, Nevada, approximately 60 miles southeast of Battle Mountain, 72 miles southwest of Elko, and 47 miles south of Interstate 80.

Mining in the Cortez Mining District began with the discovery of silver ore in 1862. Underground silver mining was conducted in the area until the 1930s. Modern production of gold in the area started in the 1940s and in 1968 at Cortez and has continued with the development of additional mines (Pipeline, Cortez Hills, and Deep South) and associated processing facilities. Mining activities have continuously occurred in the area through the present time (Stantec 2020a).

Within the Cortez Plan boundary, including the appropriate disturbance buffers surrounding Project activities, there are 26 previously identified golden eagle nests. The 26 nests, which are located on natural and humanmade features, are thought to represent all or part of 10 breeding territories. The territory delineation process is discussed in **Section 3.1.2** of this EA. Three of these territories have one or more alternate nests outside a one-mile radius of approved disturbance and a two-mile radius of approved pit blasting; therefore, they have not been included for proposed take since they have nesting alternatives at a distance likely to ameliorate impacts from disturbance. Two other territories (one of which also has a nest outside the one-mile radius of approved disturbance and two-mile radius of approved pit blasting) are being included in NGM's separate application for a disturbance take permit for the Goldrush Mine Project, and impacts will be analyzed in a separate NEPA action; thus, they are not analyzed further in this EA. One territory consists of one nest (MT-03) that was not located in 2019, 2020, 2021, or 2022 and no longer appears to be present; thus, impacts are not anticipated to occur to this territory. One territory

(including nests HDC-01 and HDC-02) occurs within one mile of a rapid infiltration basin and associated infrastructure that experiences low-level light truck activity equivalent to recreational and ranching activities frequently experienced across Nevada. It has an alternate nest (HDC-01) that is not within the line of sight of any surface disturbance; thus, it is not anticipated that this territory would be impacted. Accordingly, NGM has applied to the Service for authorization for disturbance take associated with four territories at the Cortez Mine. The 10 territories are illustrated in **Table 1-1**, with bold font for territories and their associated nests that are subject to disturbance take. The applicable nests and territories are also shown on **Figure 1-3**.

Table 1-1 Cortez Golden Eagle Nest Territories Within One-Mile Radius of Approved Surface Disturbance and Two-Mile Radius of Approved Pit Blasting

Territory Nests	Nest ID	Within One Mile of Approved Surface Disturbance	Within Two Miles of Pit Blasting	Included in Goldrush Take Permit Application	Territory with Nest(s) Outside One- and Two-Mile Radii	Nest Distance Specifics
CC-01, CC-03, CC-04	**CC-01**	**Yes**	**No**	**No**	**No**	**Nests are within 0.9 mile of each other along the same range front. The closest nest is TR-11, 1.1 miles southwest of CC-01.**
	CC-03	**Yes**	**Yes**			
	CC-04	**Yes**	**Yes**			
CM-08, CM-10, CVC-02, CVC-06	CM-08	Yes	No	No	Yes – 2 out of 4 nests (CM-10 and CVC-06)	Nests are within 1.3 miles of each other along a similar range front. Next closest nest (CM-16) is 2.9 miles to the northeast of CM-10.
	CM-10	No	No			
	CVC-02	Yes	No			
	CVC-06	No	No			
CWC-03, CWC-04, CWC-05, CWC-06, CWC-08	CWC-03	No	No	No	Yes – 4 out of 5 nests (CWC-03, CWC-04, CWC-05, CWC-06)	Nests are within 0.5 mile of each other in Cottonwood Canyon. The closest nest is LCC-01, 1.5 miles west of CWC-08.
	CWC-04	No	No			
	CWC-05	No	No			
	CWC-06	No	No			
	CWC-08	Yes	No			
GAP-01, GAP-02, GAP-05, GAP-06, GAP-07	**GAP-01**	**Yes**	**Yes**	**No**	**No**	**Nests GAP-01, GAP-03, and GAP-05 occur in the Gold Acres Pit. Nest GAP-06 occurs in the GAP Pit. Nests are within 1.3 miles of each other. The closest nest, GQM-01, is 4.3 miles northeast of GAP-02.**
	GAP-02	**Yes**	**Yes**			
	GAP-05	**Yes**	**Yes**			
	GAP-06	**Yes**	**Yes**			
	GAP-07	**Yes**	**Yes**			
HDC-01,* HDC-02	HDC-01*	Yes	No	No	No	Nests are within 0.29 mile of each other. Closest nest is LCC-01, 1.2 miles to the south of HDC-01.
	HDC-02	Yes	No			
MC-03, MC-04	**MC-03**	**No**	**Yes**	**No**	**No**	**Nests are within 0.7 mile of each other and occur in the same drainage. The closest nest, MC-02, is 1.1 miles east of MC-03.**
	MC-04	**Yes**	**Yes**			
RP-01, RP-02	**RP-01**	**Yes**	**No**	**No**	**No**	**Nests are within 1.2 miles of each other. The closest nest is**
	RP-02	**Yes**	**No**			

Territory Nests	Nest ID	Within One Mile of Approved Surface Disturbance	Within Two Miles of Pit Blasting	Included in Goldrush Take Permit Application	Territory with Nest(s) Outside One- and Two-Mile Radii	Nest Distance Specifics
						RM-12, 2.3 miles south of RP-01.
HC-08, MT-01	MT-01	No	Yes	Yes	Yes – 1 out of 2 nests (HC-08)	Nests are within 1.2 miles of each other. The next closest nest, WC-04, is 1.9 miles east of MT-01.
	HC-08	No	No			
MT-02	MT-02	Yes	Yes	Yes	No	No other nests occur in the same drainage. The closest nest (which is no longer present) was MT-03, 1.5 miles north.
MT-03**	MT-03**	Yes	Yes	No	No	No nest was found in 2019, 2020, and 2022.

Note: **Bold font** and highlighted gray are subject to disturbance take.
* HDC-01 is approximately 100 feet within the one-mile buffer of the approved rapid infiltration basin and not within line of sight; therefore, this territory has not been included as proposed for take.
** MT-03 was reported as a golden eagle nest in 2014 but has never been documented as in use by golden eagles. The nest area was in use by a different species (prairie falcon) in 2017, and presence of a nest could not be located in 2019, 2020, or 2022. As such, MT-03 has not been included as a territory proposed for take because it is no longer present.

The Cortez Mine Project Plan boundary and a surrounding 10-mile radius includes various rock outcrops and pit highwalls that are identified as potential eagle nesting areas. Shrub communities directly north of the Cortez Project and in valleys within 10 miles of the Cortez Project provide valuable foraging habitat. Limited water sources and very little riparian habitat are present in the Cortez Project area.

Phoenix Mine

NGM has been approved by the BLM Mount Lewis Field Office to conduct mining activities at the Phoenix Mine within the Phoenix Mine Plan of Operations (Phoenix Plan) boundary (**Figures 1-1** and **1-4**). The Phoenix Mine is located in the Copper Canyon area of the Battle Mountain Mining District in Lander County, Nevada, approximately 12 miles southwest of Battle Mountain.

The Copper Canyon area has a long history of minerals production dating back to the initial discovery of copper ore in 1864. Mining and beneficiation operations have been conducted through a steady succession of owners/operators and production periods. Beginning in the late 1970s, mining and recovery of precious metal ores continued through 1993, and mining and heap leaching of disseminated precious metal ores began in 1990 and continues through the present (Stantec 2020b).

Within the Phoenix Plan boundary, including the appropriate disturbance buffers surrounding Project activities, there are a total of eight nests, which are located on natural features. The eight nests are thought to represent a total of two golden eagle breeding territories. The two territories are within one mile of approved surface disturbance and within two miles of approved pit blasting and are anticipated to be impacted during operations. The applicability of radius distances and

territory nest associations are shown in **Table 1-2** and on **Figure 1-5**.

Table 1-2 Phoenix Golden Eagle Nest Territories

Territory Nests	Nest ID	Within One Mile of Approved Surface Disturbance	Within Two Miles of Approved Pit Blasting	Territory with Nest(s) Outside One- and Two-Mile Radii	Nest Distance Specifics
CBR-01-A, B, C, D, and E	CBR-01-A	Yes	Yes	No	Nests are within 50 to 270 feet of each other on the same cliff face north of Buffalo Valley Road. The next closest nest is PC-04-A, two miles northeast.
	CBR-01-B	Yes	Yes		
	CBR-01-C	Yes	Yes		
	CBR-01-D	Yes	Yes		
	CBR-01-E	Yes	Yes		
PC-03-A, PC-04-A, and PC-05-A	PC-03-A	Yes	Yes	No	Nests are within 0.5 mile of each other along the same range front. The closest nest is CBR-01 A–E, two miles southwest of PC-04-A.
	PC-04-A	Yes	Yes		
	PC-05-A	Yes	Yes		

The Phoenix Plan boundary and a surrounding 10-mile radius includes various rock outcrops and pit highwalls that are identified as potential eagle nesting areas. Shrub communities in valleys surrounding the Phoenix Project provide valuable foraging habitat. Limited water sources and very little riparian habitat are present in the Phoenix Project area.

1.4 Scoping, Consultation, and Coordination

This EA incorporates by reference the scoping performed for the PEIS (chapter 6, page 175) (USFWS 2016a). The draft EA will be made public on the Service's Pacific Southwest Region webpage[1] for 30 days to solicit public comments.

The Applicant worked closely with the Service and BLM to develop the ECPs in support of its application to avoid, minimize, and mitigate adverse effects to eagles. The Applicant developed a detailed monitoring plan that will be implemented for activities within one mile of active mining or two miles of blasting in coordination with the Service, BLM, and Nevada Department of Wildlife (NDOW).

1.5 Tribal Coordination

Tribal participation is an integral part of the NEPA and National Historic Preservation Act (NHPA) process, as well as a key component of determining whether to issue an eagle take permit. Cultural and religious concerns regarding eagles were analyzed in the PEIS (USFWS 2016a), and Tribal consultation was conducted for the PEIS (USFWS 2016a). The PEIS (USFWS 2016a) identified Tribal coordination as an important issue for subsequent analysis, given the cultural importance of eagles to the Tribes. In accordance with Executive Order 13175, "Consultation and Coordination

[1] https://www.fws.gov/library/collections/pacific-southwest-region-nepa-documents-eagle-permits

with Tribal Governments (65 Federal Register 67249, November 9, 2000)", the NHPA Section 106 regulations (36 CFR Part 800) and the Service's Native American Policy, the Service consults with Native American Tribal governments whenever actions taken under the authority of the Eagle Act may affect Tribal lands, resources, or the ability to self-govern. This coordination process is also intended to ensure compliance with the American Indian Religious Freedom Act.

The Service sent letters on February 13, 2023 to 11 federally recognized Tribal governments located within 109 miles (the natal dispersal distance of golden eagles, thought to adequately define the species local area population [LAP]) of the Projects informing them of the received permit application and preparation of this EA, and offering the opportunity for formal consultation regarding potential issuance of the permit. In addition, comments from Tribes are also encouraged and welcomed during the 30-day comment period on the EA. The Fallon Paiute-Shoshone Tribe responded through the Service's California Great Basin Regional Native American Liaison and a Government-to-Government in-person meeting for additional information was held March 24, 2023. The Fallon Paiute-Shoshone Tribal Council and Tribal members were in opposition to activities the BLM had already authorized for the Cortez and Phoenix Projects and the Service's potential issuance of an incidental take permit. The Service takes these concerns seriously and has attempted to clarify that the current actions proposed under this EA are intended to maintain NGM's compliance with the Eagle Act for previously authorized activities, and the resulting compensatory mitigation would serve to reduce population level impacts to golden eagles compared to conditions resulting from the No Action Alternative or permit denial. The Service received no response from any of the other Tribes contacted.

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 Alternative 1: Proposed Action

Under this alternative the Service proposes to issue two incidental eagle take permits, one for the Cortez Mine and one for the Phoenix Mine, with associated conditions, to the Applicant for the reoccurring disturbance to and loss of annual productivity from golden eagle breeding territories. Previously authorized mining and operational activities at the Cortez Mine would cause disturbance and lost productivity at up to four golden eagle breeding territories annually for 30 years. The permit for the Cortez Mine would authorize up to four incidents of disturbance take each year for 30 years, during which Project activities and past incidents of take would be evaluated at five-year intervals. Previously authorized mining and operational activities at the Phoenix Mine would cause disturbance and lost productivity of up to two golden eagle breeding territories annually for 30 years. The permit for the Phoenix Mine would authorize two incidents of disturbance take each year, during which Project activities and past incidents of take would be evaluated at five-year intervals, as described further below. Unless the Service determines the lack of eagle nesting and/or failure to fledge eagle chicks is conclusively caused by another means, any lack of nesting and/or loss of productivity would be attributed to activities at the Cortez Mine and the Phoenix Mine, respective to each permit.

Under this alternative, all monitoring and adaptive management measures, minimization measures, and detection and reporting measures outlined in **Section 2.3** would be permit requirements.

2.1.1 Compensatory Mitigation

Compensatory mitigation to fully offset authorized take would be conducted within the Pacific Flyway Eagle Management Unit (EMU). The Applicant would provide the compensatory mitigation at the required 1.2:1 ratio by retrofitting electric utility poles, as discussed in the 2016 PEIS. The intent would be to minimize the potential for eagle electrocutions and ensure that the effects of eagle incidental take are offset at the population level.

Long-term eagle incidental take permits require the Service to conduct five-year reviews. Based on the results of monitoring described in **Section 2.3.1** for the Projects, during the five-year review process, the Service would evaluate if disturbance take occurred for each known breeding territory described in **Tables 1-1** and **1-2**. If eagles in these breeding territories do not produce successful young, the Service would assume NGM's activities prevented eagles from successfully breeding and a disturbance take incident occurred. If NGM confirms no Project activity occurred within one mile of a golden eagle nest, or blasting within two miles of nests, from December 15–April 15 and monitoring confirms eagle nests are not in-use the Service would determine no take occurred. The Service would consider use of alternate nests within a given territory when evaluating whether take occurred as a result of NGM's mine-related activities. After assessing how many take incidents occurred during the first 5 years, the Service would then evaluate how much compensatory mitigation might be either credited or owed for each successive five-year period remaining within the permit duration for each Project.

Cortez Mine

The permit for the Cortez Mine would require mitigation for the authorized annual disturbance take of four golden eagle breeding territories for up to 30 years at the Cortez Mine. The amount of compensatory mitigation required for the lost breeding productivity has been determined through the Service's Golden Eagle Resource Equivalency Analysis (REA) (USFWS 2018). Long-term eagle incidental disturbance take permits require the Service to conduct five-year reviews. Therefore, the mitigation will be paid in five-year cycles, with the first payment occurring upon permit issuance. NGM must commit to mitigate the first five years of estimated take at the time of permit issuance. At each five-year check-in, data collected during the previous five years will be used to determine the amount of further compensatory mitigation that would be required in the following five years. For the first five-year portion of the permit period NGM would contribute compensatory mitigation in an amount equal to the power pole retrofit of one of the following, or a combination of both:

- 444.41 poles (avoided loss from retrofits maintained and effective for 10 years); or
- 193.41 poles (avoided loss from retrofits maintained and effective for 30 years).

Phoenix Mine

The permit for the Phoenix Mine would require mitigation for the authorized annual disturbance take of two golden eagle breeding pairs for up to 30 years at the Phoenix Mine. The amount of compensatory mitigation required for 30 years of lost productivity has been determined through the Service's Golden Eagle REA (USFWS 2018). Long-term eagle incidental disturbance take permits require the Service to conduct five-year reviews. Therefore, the mitigation will be paid in five-year cycles, with the first payment occurring upon permit issuance. NGM must commit to mitigate the first five years of estimated take at the time of permit issuance. At each five-year check-in, data collected during the previous five years will be used to determine the amount of further compensatory mitigation that would be required in the following five years. For the first five-year portion of the permit period NGM would contribute compensatory mitigation in an amount equal to the power pole retrofit of one of the following, or a combination of both:

- 222.21 poles (avoided loss from retrofits maintained and effective for 10 years); or
- 96.71 poles (avoided loss from retrofits maintained and effective for 30 years).

2.2 Alternative 2: No Action Alternative

Under the No Action Alternative, the Service would take no further action on NGM's two permit applications. However, the Service must take action on the two permit applications and determine whether to deny or issue the permits. Accordingly, this alternative is considered because Service policy and the NEPA requires evaluation of a No Action Alternative and it provides a clear comparison of any potential impacts to the human environment from the Proposed Action. The No Action Alternative in this context analyzes predictable outcomes of the Service not issuing permits for the Cortez Mine and the Phoenix Mine. Should the two permits not be issued, compensatory mitigation would not be required. Thus, for purposes of analyzing the No Action Alternative, the

conservation measures proposed in the two permit application packages would not be required. The Applicant may choose to voluntarily implement some, none, or all of those conservation measures. Under this alternative, it is assumed that the Applicant would take reasonable steps to avoid disturbing eagles, but NGM would not be protected from enforcement for violating the Eagle Act should disturbance take of eagles occur at the Cortez Mine or the Phoenix Mine.

2.3 Project Components Common to Both Alternatives

This section describes components of the Projects that are the same for the Proposed Action and No Action Alternative, whether or not a permit is issued. If the Proposed Action is taken and the Service issues the two permits, these measures would become requirements for the two permits.

2.3.1 Monitoring and Adaptive Management

The Applicant will implement all measures required by other agencies and jurisdictions to conduct the activity at the Cortez Mine and the Phoenix Mine, including Applicant-committed Environmental Protection Measures (EPMs). Monitoring will be implemented over the life of the Projects. **Table 2-1** and **Table 2-2** presents a summary of the Applicant-committed EPMs with monitoring and a schedule for implementation at the Cortez Mine and the Phoenix Mine that would be applicable with the issuance of the permit for the Cortez Mine and the Phoenix Mine.

Table 2-1 Cortez Mine EPM Monitoring Schedule

EPM	Monitoring Actions	Duration
EPM 1	Territory occupancy ground surveys will be conducted within the four golden eagle territories in the Cortez Mine that are part of the disturbance take permit in January to mid-March (i.e., the preferred survey window) to assess golden eagle territory occupancy and document in-use nests as appropriate. Every attempt will be made to conduct the ground surveys mid- to late February. NGM will coordinate with the USFWS prior to the ground surveys occurring to communicate existing conditions on the ground that may prohibit ground surveys to some nest sites (e.g., heavy snow, access concerns, golden eagle disturbance, etc.). This communication prior to ground surveys being conducted will allow for flexibility in the monitoring requirements based on conditions at the site during the preferred survey window. NGM would coordinate with the USFWS and BLM to discuss monitoring as the season progresses and assess if monitoring requirements need to be modified based on site conditions, access concerns, or potential disturbance to nesting golden eagles. Nests MC-03 and MC-04 are not possible to access for early-season ground surveys based on road conditions and limited observation options without resulting in additional ground disturbance. Early-season ground surveys will not be conducted for the territory with nests MC-03 and MC-04. These nests will be monitored via an early-season (January to mid-March) aerial survey following Pagel et al. (2010) protocol. High-resolution photographs from the early-season aerial flight will be used to assess evidence of early-season occupancy at nests (e.g., new nest material, reformed/developed nest bowl, etc.). Aerial surveys later in the breeding season will clarify occupancy and breeding status (see Cortez Mine Conservation Measure 6 [CM-6]) and comply with Pagel et al. (2010) protocol. Every attempt will be made to conduct the first aerial survey by mid-March and the follow-up aerial survey in mid-April.	Annually until Permit Expiration

EPM	Monitoring Actions	Duration
	An early-season (January to mid-March) ground survey will be conducted for nests GAP-01, GAP-02, and GAP-05 if on-site conditions and access are conducive to ground monitoring. NGM will coordinate with the USFWS and BLM regarding the site conditions prior to conducting the ground surveys to determine if ground monitoring is feasible in the January to mid-March preferred survey window months. If a ground survey is not possible during January or February due to site conditions, access concerns, or potential disturbance to golden eagles, video monitoring may be used in lieu of the ground survey, in coordination with the BLM and USFWS. Aerial surveys later in the breeding season will be conducted following Cortez Mine CM-6 and comply with Pagel et al. (2010) protocol. Every attempt will be made to conduct the first survey by mid-March and the follow-up aerial survey in mid-April. An early-season (January to mid-March) ground survey will be conducted for nests GAP-06 and GAP-07 using similar observation points as previous years. NGM will coordinate with the USFWS and BLM regarding site conditions and access to these observation points prior to the ground survey occurring. If on-site conditions make a ground survey not feasible during the preferred survey window, NGM will coordinate with the USFWS and BLM to modify monitoring requirements based on site conditions, access concerns, or potential disturbance to nesting golden eagles. Aerial surveys later in the breeding season will be conducted following Cortez Mine CM-6 and comply with Pagel et al (2010) protocol. Every attempt will be made to conduct the first survey by mid-March and the follow-up aerial survey in mid-April. An early-season (January to mid-March) ground survey will be conducted for nests RP-01 and RP-02. If on-site conditions make a ground survey not feasible during the ideal survey window, NGM will coordinate with the USFWS and BLM to modify monitoring requirements based on site conditions, access concerns, or potential disturbance to nesting golden eagles. Aerial surveys later in the breeding season will be conducted following Cortez Mine CM-6 and comply with Pagel et al. (2010) protocol. Every attempt will be made to conduct the first survey by mid-March and the follow-up aerial survey in mid-April. An early-season (January to mid-March) ground survey will be conducted for nests CC-01, CC-03, and CC-04. If on-site conditions make a ground survey not feasible during the ideal survey window, NGM will coordinate with the USFWS and BLM to modify monitoring requirements based on site conditions, access concerns, or potential disturbance to nesting golden eagles. Aerial surveys later in the breeding season will be conducted following Cortez Mine CM-6 and comply with Pagel et al. (2010) protocol. Every attempt will be made to conduct the first survey by mid-March and the follow-up aerial survey in mid-April. Ground survey observations will focus in the areas around nests, nest cliffs, and other suitable nesting habitat. Specific observation criteria used for the ground survey for establishing golden eagle territory occupancy include the following: An adult eagle within 500 meters of a nest within the territory, when the bird is clearly in view of the nest, and when the eagle's presence is clearly not a rapid pass-over of the nest. Two adults, or an adult and a sub-adult bird, paired within the territory. Reproductive or territorial behavior within the territory: Courtship behavior, undulating flight, copulation	

EPM	Monitoring Actions	Duration
	Territorial defense Nest-building behaviors (stick carrying, nest maintenance) A follow-up aerial or ground survey will be conducted for those nests that were determined to contain breeding attempts during the above-discussed surveys. Success at golden eagle nests is determined by nestlings greater than 51 days old, which is primarily late May and peaks mid-June.	
EPM 2	If new nests are identified within the territories that are part of the disturbance take permit during the 30-year term of the take permit, NGM will coordinate with the USFWS regarding the new nests, and these new nests will be monitored as discussed above, concurrent with the other nests within the territories that are part of the disturbance take permit. After ground surveys are completed, Cortez Mine CM-6 would apply to nests within a territory that have a disturbance take permit and in compliance with Pagel et al. (2010) protocol. If new nests are identified within one mile of disturbance or two miles of blasting that are outside a territory with a disturbance take permit, NGM will inform and coordinate with the USFWS and BLM regarding the new nest sites that are outside the territories with a disturbance take permit. Cortez Mine CM-4 and CM-6 would apply for new nests identified outside a territory with a disturbance take permit, in coordination with the USFWS and BLM. Unless a disturbance take permit is in place, golden eagle nests with concern for potential disturbance should be considered not in-use for a given breeding season if they are confirmed not in-use on April 15 or later. Prior to April 15, they are considered potentially in-use unless an alternate nest within the same territory is already confirmed in-use, and spatial disturbance buffers (one mile for surface disturbance or two miles for blasting) would be adhered to until nests are confirmed not in-use, after July 31 if nests are in-use, or four weeks after nestlings fledge if monitoring confirms approximate fledging date.	Annually until Permit Expiration

Table 2-2 Phoenix Mine EPM Monitoring Schedule

EPM	Monitoring Actions	Duration
EPM 1	In compliance with the most recent USFWS golden eagle survey recommendations in Nevada, initial early-season occupancy surveys (ground-based or aerial-based) will be conducted within a four-mile buffer of the Phoenix Mine Project boundary in January to mid-March (i.e., the preferred survey window) to assess golden eagle territory occupancy and document in-use nests, as appropriate. Every attempt will be made to conduct these surveys by mid- to late February. NGM will coordinate with the USFWS prior to the initial early-season occupancy surveys to communicate existing conditions on the ground (e.g., heavy snow, access concerns, golden eagle disturbance, etc.). This communication will allow for flexibility in the monitoring requirements based on conditions at the site during the preferred survey window. NGM will coordinate with the USFWS and the BLM to discuss monitoring as the season progresses and assess if monitoring requirements need to be modified based on site conditions, access concerns, or potential disturbance to nesting golden eagles. Follow-up aerial-based occupancy surveys following Pagel et al. (2010) will be conducted within a four-mile buffer of the Phoenix Mine Project Plan boundary at least 30 days following initial early-season occupancy surveys (ideally in March to mid-April) and will focus on assessing territory occupancy in areas not confirmed during the initial survey, assessing all suitable nesting habitat to identify previously undocumented nests, and assessing nest and territory occupancy status of all golden eagle nests and nests of other cliff-nesting raptor species. Final late-nestling	Annually until Permit Expiration

EPM	Monitoring Actions	Duration
	productivity surveys (aerial or ground-based) will occur generally late May through June to assess golden eagle breeding success/productivity at nests identified as in-use during the initial and follow-up surveys at the time when golden eagles are expected to have late-stage nestlings (i.e., breeding attempts considered successful when one or more nestling reaches greater than 51 days old).	
EPM 2	If new nests are identified within one mile of disturbance or two miles of blasting that are outside a territory with a valid take permit, NGM will inform and coordinate with the USFWS and the BLM regarding these nest sites. Nests are considered in-use for a given breeding season (i.e., December 15 through July 31) until they are confirmed to not be in-use on April 15 or later. In the absence of a take permit, spatial disturbance buffers (i.e., one mile of surface disturbance and two miles of blasting) will be adhered to until nests are confirmed to be not in-use by April 15 or later, four weeks after nestlings fledge if monitoring confirms approximate fledging date, or after July 31 if they are in-use and not otherwise monitored to verify fledging date.	Annually until Permit Expiration

2.3.2 Minimization Measures

NGM has currently implemented the following measures at the Projects and plans to continue to implement these measures to minimize impacts to golden eagles from the Projects whether or not the permits are issued.

Vehicle Speed Limits: Speed limits within the Plan boundaries will be reduced to help avoid the risk of vehicle collisions with eagles. The modified speed limit will also reduce the number of carcasses on roadways from terrestrial mammal collisions.

Carcass Management: NGM staff will remove carcasses from all roadways within the Cortez Mine Project and Phoenix Mine Project when on-site and dispose of them appropriately to reduce the risk of vehicle collisions.

Employee Awareness and Training Program: Staff and contractors utilizing the Project areas will be provided training on reducing risks to eagle collisions, reporting eagle and nest observations, and any Service requirements provided within the eagle permit.

Additionally, existing Applicant-committed conservation measures specific to the Cortez Mine are provided in **Table 2-3,** and those specific to the Phoenix Mine are provided in **Table 2-4**. The source of each existing Applicant-committed conservation measure has also been provided.

Table 2-3 Cortez Mine Conservation Measures

Number	Conservation Measure	Source(s)
CM-1	Netting, pond covers, or floating "bird balls," as appropriate, will be installed over ditches and ponds that contain leach solutions to minimize potential impacts to avian and terrestrial wildlife species. In addition, the heaps will be scarified to minimize ponding and pooling of process solutions.	BLM 2008a, 2015, 2019
CM-2	Weak acid dissociable cyanide concentrations in the tailings impoundments will be maintained at non-lethal levels. As added protection, the existing cyanide detoxification system (which uses in-line addition of ferrous sulfate to the tailings solution) will be used if it should become necessary to lower the cyanide levels in the tailings discharge to the tailings facility.	BLM 2008a, 2015, 2019

Number	Conservation Measure	Source(s)
CM-3	To minimize potential impacts to wildlife species, the top of leach pads will be monitored daily for any substantial pooling of cyanide solutions, and wildlife mortalities will be reported in accordance with the NDOW Industrial Artificial Pond Permit.	BLM 2015, 2019
CM-4	In the event that initiation of the Project should occur during the raptor nesting season (March 1 through July 31 and April 1 through July 31 for the burrowing owl), a raptor survey will be conducted. Project-related disturbance for a specific location will be conducted within 14 days of the survey, or another survey will be conducted. If active nests are located or if other evidence of nesting (i.e., mated pairs, territorial defense, carrying nesting material, transporting food) is observed, a protective radius (the size depending on the habitat requirements of the species and location of the nest) will be established around the nests following consultation with the BLM resource specialist. No construction will occur within the avoidance zone until the birds are no longer actively breeding or rearing young or until the young have fledged.	BLM 2008a, updated in 2015, 2019
CM-5	To protect nesting birds, removal of migratory bird habitat on currently undisturbed lands in the Cortez Gold Mine Operations Area will be avoided to the extent possible between March 1 and July 31. Should removal of habitat be required during this period, BCI (Barrick Cortez Inc.; now NGM) will coordinate with the BLM and NDOW to conduct migratory bird nesting surveys and implement appropriate mitigation, such as avoidance zones around occupied nests, as needed. Project-related disturbance for a specific location will be conducted within 14 days of the survey, or another survey will be conducted.	BLM 2008a, updated in 2015, 2019
CM-6	Raptor surveys will be conducted annually during the raptor breeding season (March 1 through July 31) utilizing the methods outlined in Pagel et al. (2010). The survey area will include the Cortez Gold Mine Operations Area plus a 10-mile radius. Two rotor wing (helicopter) aerial surveys and subsequent ground surveys of occupied nests will be conducted. The annual survey report will be provided to the BLM.	BLM 2015, 2019
CM-7	Transmission lines will be designed and constructed in accordance with applicable regulations to minimize raptor electrocution and collision potential. To minimize the collision potential for foraging raptors and other birds, standard safe designs as outlined in *Reducing Avian Collisions with Power Lines* (APLIC 2012) will be incorporated, as applicable. To minimize the potential for electrocution of raptor species attempting to perch on the lines in areas of identified avian concern, standard safe designs as outlined in *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006* (APLIC 2006) and *Avian Protection Plan Guidelines* (APLIC and USFWS 2005) will be incorporated, as applicable.	BLM 2008a, updated in 2015, 2019
CM-8	To minimize potential mine-related effects to perennial surface waters, the site-specific contingency mitigation measures developed for identified perennial waters within the currently authorized operations' modeled groundwater drawdown area will be implemented if monitoring data indicate that an observed reduction in flow is attributable to mine-induced groundwater drawdown. If needed, one or more of the identified mitigation methods will be implemented per the site-specific mitigation plans presented in Table 3.2-1 of the Cortez Hills Expansion Project Supplemental Final EIS (BLM 2011a). Site-specific contingency mitigation measures identified in BCI's (now NGM's) proposed Contingency Mitigation Plans for Surface Waters (BCI and Stantec 2018) will be implemented to minimize potential mine-related effects to perennial waters within, and within one mile of, the modeled maximum extent of the Proposed Action's groundwater drawdown area not covered by the 2011 mitigation plan.	BLM 2011a, 2011b, updated in 2019
CM-9	BCI (now NGM) will voluntarily coordinate with the BLM to develop new wetland/riparian areas and/or enhance existing wetland/riparian areas at off-site locations to address the direct loss of wetland/riparian vegetation. The loss of wetland/riparian vegetation will be replaced at a 2:1 ratio (i.e., for every acre of wetland/riparian vegetation removed or disturbed by mine development or groundwater drawdown, two acres of wetland/riparian vegetation will be created and/or enhanced). Where appropriate, replacement of wetland/riparian vegetation will be developed in conjunction with the mitigation measures for potentially affected perennial waters. BCI (now NGM), in coordination with a BLM botanist, will identify appropriate wetland/riparian species to be seeded or transplanted in these locations. Alternately, local existing areas of	BLM 2008b, updated in 2019

Number	Conservation Measure	Source(s)
	wetland/riparian vegetation unaffected by mine-related groundwater drawdown will be identified in coordination with the BLM for enhancement. Enhancement methods could include, but will not be limited to, the use of BLM-approved fencing to minimize livestock impacts, implementation of weed controls, and/or supplemental planting or seeding, as appropriate.	
CM-10	BCI (now NGM) will continue its mandatory employee education program for all personnel to minimize wildlife/vehicle-related impacts during operation.	BLM 2008b

Table 2-4 Phoenix Mine Conservation Measures

Number	Conservation Measure	Source(s)
CM-1	Protective measures associated with avian wildlife and potentially deleterious supernatant pond solutions are managed in compliance with the NDOW Industrial Artificial Pond Permits (IAPPs) issued for Phoenix. In addition, the proponent samples, analyzes, and reports analytical results associated with decant tailings solution, tailings solids, and supernatant pond fluids to the Nevada Division of Environmental Protection – Bureau of Mining Regulation and Reclamation in accordance with Phoenix Water Pollution Control Permit provisions. This periodic sampling and analysis in conjunction with daily operational analysis associated with tailings supernatant pond make-up water additional to Phoenix milling process, and the operational analysis of tailings discharge water quality provides a frequent examination and identification of possible deleterious supernatant pond water quality. In the event such conditions are experienced, protective avian wildlife measures would include possible water quality treatment of the supernatant pond fluids to adequately adjust pH values using chemical alkalinity additions such as hydrated lime, milk of lime, or sodium hydroxide. The addition of these chemical constituents would adjust the pH value and would result in the precipitation of trace metal hydroxides, abating potential wildlife effects associated with low pH and trace metal concentrations.	BLM 2003
CM-2	Operators have been trained to monitor the mining and process areas for the presence of larger wildlife species (e.g., deer and pronghorn antelope) as well as winged species (e.g., bats, birds, etc.) and other terrestrial wildlife. Mortality information is collected in accordance with the IAPPs. Phoenix continues to operate in accordance with established wildlife protection policies that prohibit feeding or harassment of wildlife.	BLM 2012
CM-3	Phoenix developed a wildlife monitoring plan to identify wildlife mortality in the Phoenix area and to report all mortalities. As part of this process, the top of the copper heap leach facility is monitored daily for any substantial pooling of process solutions. Drip emitters are used, and the heap surface is scarified to minimize ponding and pooling of the process solutions. If pooling does occur during active operations, Phoenix would 1) reduce solution application rates, 2) re-scarify the heap leach facility surface, and 3) place netting over any ponding to prevent wildlife access.	BLM 2003, updated 2012
CM-4	In order to minimize impacts to wildlife species from the exposure to precipitate in the E-ponds, Phoenix committed to 1) installing and maintaining fencing around, and bird netting across, E-ponds to minimize wildlife access to the ponds until reclamation is complete and 2) submitting quarterly reports to the BLM and NDOW on wildlife mortalities. If wildlife mortalities are identified within or near the E-ponds, Phoenix would immediately contact NDOW, as required under the IAPPs, and the BLM to determine appropriate mitigation. Although the Record of Decision for the Phoenix Copper Leach Project (BLM 2012) identified bird netting as a method of minimizing wildlife access to the ponds, Phoenix (through coordination with the BLM) currently utilizes bird balls and may use other measures (e.g., bird netting) to minimize wildlife access to the ponds.	BLM 2012
CM-5	Eight-foot-high chain-link fencing has been installed around the process ponds (including the raffinate pond) in accordance with the NDOW IAPPs at Phoenix. Netting, pond covers, or floating bird balls, as appropriate, would be installed over ditches and ponds containing leach solutions to minimize potential impacts to winged species and other terrestrial wildlife.	BLM 2012

Number	Conservation Measure	Source(s)
CM-6	The transmission line segment (120-kilovolt) and power line segment (13.8-kilovolt) for the Phoenix Copper Leach Project (BLM 2012) have been designed and constructed in accordance with applicable guidelines to minimize raptor perching, nesting, electrocution, and collision potential. To minimize raptor perching and nesting, BLM-approved raptor deterring devices have been installed on horizontal cross bars. To minimize electrocution of raptor species attempting to perch on the lines, standard safe designs as outlined in *Suggested Practices for Raptor Protection on Power Lines* (APLIC 2006) are incorporated in the Phoenix area, as applicable. To minimize collision potential for foraging raptors, standard safe designs as outlined in *Mitigating Bird Collisions with Power Lines* have been incorporated, as applicable.	BLM 2012
CM-7	To comply with the Migratory Bird Treaty Act, no new surface disturbance would occur during the migratory bird breeding season (March 1 through July 31 for raptors and April 1 through July 31 for other avian species). If surface-disturbing activities are unavoidable during the migratory bird breeding season, a nest survey would be conducted by a BLM-approved, qualified avian biologist prior to any surface-disturbing activities in order to avoid potential impacts to breeding migratory birds. Pre-disturbance surveys for migratory birds are only valid for 14 days. If the disturbance for the specific location does not occur within 14 days of the survey, another survey would be conducted. If active nests or burrows are located around the Project area or if other evidence of nesting (i.e., mated pairs, territorial defense, carrying nest material, transporting food) is observed, a protective radius (the size depending on the habitat requirements of the species) would be delineated and the protective area avoided to prevent destruction or disturbance to nests or birds until they are no longer actively breeding or rearing young. The site characteristics to be used to determine the size of the avoidance area are 1) topographic screening, 2) distance from disturbance to nest, 3) the size and quality of foraging habitat surrounding the nest, 4) sensitivity of the species to nest disturbances, and 5) the protection status of the species.	BLM 2012, updated 2018
CM-8	In the event avian or bat/building collisions are determined to be of concern, perch deterrents would be used on ledges, rooftops, and other areas. Such deterrents could limit the attractiveness of these facilities to avian and bat species and reduce the potential for collisions.	BLM 2018
CM-9	Any new power line poles would be constructed with avian deterrent devices or methods. Some poles may require the use of guy wires for stability purposes. The guy wires and static line are generally the smallest-diameter wires and therefore would be the most likely to be involved with avian collisions. All new guy wires that are required for power poles within the Plan boundary will be marked to prevent avian and bat collisions.	BLM 2018
CM-10	The process ponds are constructed with side slopes of 3H:1V or steeper to deter avian use of the solution. Process ponds are completely covered with high-density polyethylene, hexagonal balls (bird balls). Bird balls float on the solution surface and preclude wildlife access to the solution surface. Phoenix operators perform inspections of process ponds twice per day to review the coverage and condition of bird balls. Bird balls are replaced or added when necessary. The heap leach facility is managed to prevent solution ponding on top of the pad. If solution ponding occurs on the surface of the heap leach facility, efforts would be employed to eliminate the ponding or standing solution. Efforts may include, but will not be limited to, reducing or stopping solution application where ponding occurs, ripping the surface to promote infiltration, and covering ponded areas with netting to preclude avian access to the ponded solution.	BLM 2018
CM-11	The International Cyanide Management Code recognizes a concentration of 50 parts per million as the lethal threshold for most wildlife species. The Phoenix tailings storage facility employs a dual cyanide destruction system that uses Caro's acid and ammonium bisulfite to promote cyanide destruction prior to depositing tailings in the tailings storage facility. Phoenix monitors the tailings slurry leaving the mill daily to ensure that weak acid dissociable cyanide concentrations in the tailings slurry are below 50 parts per million prior to deposition in the tailings storage facility. The tailings storage facility is further managed to minimize the size of the supernatant pool and thereby the attractiveness and risks to birds and bats. The tailings storage facility is not expected to produce invertebrates or other prey sources for birds or bats.	BLM 2018

Number	Conservation Measure	Source(s)
CM-12	Follow the *Suggested Practices for Raptor Protection on Power Lines*, per APLIC (2006), which provides guidance on power line construction and design on all future transmission and power lines.	BLM 2018
CM-13	Avoid construction designs (including structures such as meteorological towers) that increase the risk of collision, such as guy wires. If guy wires are used, mark them with bird flight diverters (according to the manufacturer's recommendation).	BLM 2018
CM-14	Instruct Phoenix personnel and visitors to drive at low speeds (less than 25 mph) and be alert for wildlife, especially in low-visibility conditions.	BLM 2018
CM-15	Where necessary (as determined by mortality records) and practicable, retrofit problem structures to reduce avian injury/mortality and coordinate efforts with the BLM and NDOW.	BLM 2018

2.3.3 Detection and Reporting Measures

Eagle injuries, mortalities, and previously undocumented eagle nests will be detected through incidental observations by NGM personnel and contractors. Although the Projects' activities are not expected to result in injury or mortality to eagles, NGM field staff will be advised to remain alert for eagles within the Cortez and Phoenix Mine Project boundaries and access roads at all times to improve the probability that injuries and mortalities do not go undetected. The detection of any new nest sites will occur through annual raptor nest surveying (aerial and ground-based) and incidental observations.

In the event that a new eagle nest is detected within proximity to mine activities, the NGM Environmental Department or designee will record the circumstances and conditions associated with the observation. Among the information recorded and reported to the Service will be the date and time of the detection, the Global Positioning System location (North American Datum 83), the status of the nest, and the species.

If NGM personnel or its contractors encounter a golden eagle injury or mortality within the Plan boundaries, they must report the incident to the NGM Environmental Representative. Personnel must not handle dead or injured eagles unless specifically directed to do so by the Service. In the event of an eagle injury, NGM's Environmental Representative will notify the Service and NDOW immediately (the same business day), and in the event of mortality, notification will occur by the next business day.

2.4 Other Alternatives Considered but Not Evaluated in This Environmental Assessment

The Service considered other alternatives based on communication with the Applicant but concluded that these alternatives did not meet the purpose and need underlying the action because they were impracticable for the Applicant to carry out or did not adequately address the risk of take at the two Projects. Therefore, the Service did not assess the potential environmental impacts of those alternatives. Below is a summary of the alternatives considered but eliminated from further review.

2.4.1 Alternative 3: Deny Permit

Under this alternative, the Service would deny the two permit applications because the Applicant falls under one of the disqualifying factors and circumstances denoted in 50 CFR § 13.21, and the application fails to meet all regulatory permit issuance criteria and required determinations listed in 50 CFR § 22.80.

Our permit issuance regulations at 50 CFR § 13.21(b) set forth a variety of circumstances that disqualify an Applicant from obtaining a permit. None of the disqualifying factors or circumstances denoted in 50 CFR § 13.21 apply to NGM. We next considered whether the Applicant meets all issuance criteria for the type of permit being issued. For eagle take permits, those issuance criteria are found in 50 CFR § 22.80(f). NGM's application meets all the regulatory issuance criteria and required determinations (50 CFR § 22.80) for eagle take permits.

When an Applicant for an eagle take permit is not disqualified under 50 CFR § 13.21 and meets all the issuance criteria of 50 CFR 22.80, denial of the permit is not a reasonable option. Therefore, this alternative, denial of the two permits, was eliminated from further consideration.

3.0 AFFECTED ENVIRONMENT

This section describes the current status of the environmental resources and values that are affected by the Proposed Action and No Action Alternative.

3.1 Golden Eagles

General information on the population trends, distribution, and habitat of golden eagles is detailed in sections 3.3 and 3.4 of the PEIS (USFWS 2016a). This section more specifically describes the golden eagle population in the Cortez Mine and Phoenix Mine areas.

3.1.1 Project Areas Habitat

Foraging Habitat

Cortez Mine

Vegetation communities for the Cortez Mine have been mapped by the Southwest Regional GAP Analysis Project (SWReGAP) in land cover files (USGS 2011). The SWReGAP mapping shows 30 vegetation communities occurring within a 10-mile radius of the Plan boundary (Survey Area); these communities are shown in **Table 3-1**. Five are mapped as over five percent of the Project area: Intermountain Basins Big Sagebrush Shrubland (38 percent), Great Basin Xeric Mixed Sagebrush Shrubland (15 percent), Intermountain Basins Montane Sagebrush Steppe (13 percent), Great Basin Pinyon-Juniper Woodland (nine percent), and Intermountain Basins Greasewood Flat (seven percent). Each of the remaining 25 communities was mapped as five percent or less of the Survey Area. The potential foraging value of the various habitat types present in the region has not been quantified, but in general, the Intermountain Basins Big Sagebrush Shrubland, Great Basin Xeric Mixed Sagebrush Shrubland, and Intermountain Basins Montane Sagebrush Steppe are believed to represent the highest-value native foraging habitat. These three communities account for about 66 percent of the mapped habitat withing the Cortez Mine Survey Area.

Table 3-1 SWReGAP Vegetation Communities Within the Cortez Mine Survey Area

Vegetation Community Name	Acres	Percent of Survey Area
Agriculture	673	0.10
Barren Lands, Non-Specific	978	0.15
Great Basin Foothill and Lower Montane Riparian Woodland and Shrubland	785	0.12
Great Basin Pinyon-Juniper Woodland	62,010	9.40
Great Basin Semi-Desert Chaparral	82	0.01
Great Basin Xeric Mixed Sagebrush Shrubland	97,740	14.81
Inter-Mountain Basins Big Sagebrush Shrubland	253,452	38.41
Intermountain Basins Big Sagebrush Steppe	1,233	0.19
Intermountain Basins Cliff and Canyon	9,532	1.44
Intermountain Basins Greasewood Flat	45,056	6.83
Intermountain Basins Mixed Salt Desert Scrub	30,049	4.55

Vegetation Community Name	Acres	Percent of Survey Area
Intermountain Basins Montane Sagebrush Steppe	84,387	12.79
Intermountain Basins Mountain Mahogany Woodland and Shrubland	1,283	0.19
Intermountain Basins Playa	20,133	3.05
Intermountain Basins Semi-Desert Grassland	11,535	1.75
Intermountain Basins Semi-Desert Shrub Steppe	1,140	0.17
Intermountain Basins Subalpine Limber-Bristlecone Pine Woodland	61	0.01
Intermountain West Aspen-Mixed Conifer Forest and Woodland Complex	2	0.00
Invasive Annual and Biennial Forbland	3,533	0.54
Invasive Annual Grassland	16,533	2.51
Invasive Perennial Grassland	1,568	0.24
North American Arid West Emergent Marsh	9	0.00
Open Water	93	0.01
Recently Burned	11,666	1.77
Recently Mined or Quarried	6,117	0.93
Rocky Mountain Aspen Forest and Woodland	118	0.02
Rocky Mountain Dry Tundra	3	0.00
Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	48	0.01
Rocky Mountain Subalpine Mesic Meadow	1	0.00
Rocky Mountain Subalpine Mesic Spruce-Fir Forest and Woodland	55	0.01
Total	286,227	100.00

* **Bold** denotes habitat types believed to be native foraging habitats of the highest value.

Phoenix Mine

Vegetation communities for the Phoenix Mine have been mapped by the SWReGAP in land cover files (USGS 2011). The SWReGAP mapping shows 24 vegetation communities occurring within the Survey Area; these communities are shown in **Table 3-2**. Four are mapped as over five percent of the Survey Area: Intermountain Basins Big Sagebrush Shrubland (34 percent), Intermountain Basins Greasewood Flat (28 percent), Great Basin Xeric Mixed Sagebrush Shrubland (12 percent), and Intermountain Basins Mixed Salt Desert Scrub (10 percent). Each of the remaining 20 communities was mapped as five percent or less of the Survey Area. The potential foraging value of the various habitat types present in the region has not been quantified, but in general, the Intermountain Basins Big Sagebrush Shrubland, Great Basin Xeric Mixed Sagebrush Shrubland, and Intermountain Basins Mixed Salt Desert Scrub are believed to represent the highest-value native foraging habitat. These three communities account for about 57 percent of the mapped habitat within the Phoenix Mine Project area.

Table 3-2 SWReGAP Vegetation Communities Within the Phoenix Mine Survey Area

Vegetation Community Name	Acres	Percent of Survey Area
Agriculture	1,815	0.50
Barren Lands, Non-Specific	184	0.05

Vegetation Community Name	Acres	Percent of Survey Area
Developed, Medium – High Intensity	145	0.04
Developed, Open Space – Low Intensity	380	0.11
Great Basin Foothill and Lower Montane Riparian Woodland and Shrubland	258	0.07
Great Basin Pinyon-Juniper Woodland	7,227	2.00
Great Basin Xeric Mixed Sagebrush Shrubland	45,155	12.47
Intermountain Basins Big Sagebrush Shrubland	124,687	34.44
Intermountain Basins Big Sagebrush Steppe	477	0.13
Intermountain Basins Cliff and Canyon	4,997	1.38
Intermountain Basins Greasewood Flat	101,016	27.90
Intermountain Basins Mixed Salt Desert Scrub	35,000	9.67
Intermountain Basins Montane Sagebrush Steppe	17,580	4.86
Intermountain Basins Mountain Mahogany Woodland and Shrubland	20	0.01
Intermountain Basins Playa	4,527	1.25
Intermountain Basins Semi-Desert Grassland	1,635	0.45
Intermountain Basins Semi-Desert Shrub Steppe	45	0.01
Invasive Annual and Biennial Forbland	5,874	1.62
Invasive Annual Grassland	2,307	0.64
North American Arid West Emergent Marsh	349	0.1
Open Water	61	0.02
Recently Mined or Quarried	8,284	2.29
Rocky Mountain Aspen Forest and Woodland	24	0.01
Rocky Mountain Dry Tundra	2	<1
Total	362,048	100

* **Bold** denotes habitat types believed to be native foraging habitats of the highest value.

Other habitat types that are believed to represent important golden eagle foraging habitats in the region include natural water sources, wetlands, and meadows. Wetlands and springs provide a reliable water source for eagle prey and, therefore, allow higher concentrations of eagle prey. There are multiple seeps, springs, stock troughs, and intermittent and ephemeral drainages throughout the vicinity of the Projects. Meadow habitats, marshes, agricultural alfalfa pivots, and pastures in the vicinity of the Projects also support large populations of rodents and lagomorphs. These habitats occur at farms and ranches throughout the valley floors surrounding the Projects.

Nesting Habitat

Cortez Mine

Golden eagle nesting habitat at the Cortez Mine and within its 10-mile radius includes cliff and rock outcrops in the Shoshone Mountains to the west, the Cortez Mountains to the east, and the Toiyabe Mountains to the south, and there are multiple open pits with highwalls throughout the Project area. Golden eagles may nest in trees if available.

Phoenix Mine

Golden eagle nesting habitat at the Phoenix Mine and within its 10-mile radius includes cliff and rock outcrops in the Battle Mountain Range, the Sheep Creek Mountains, and the Shoshone Range. There are multiple open pits with highwalls throughout the Project area. Golden eagles may nest in trees if available.

Other Topographic Features Attractive to Golden Eagles

Tops of slopes oriented perpendicular to prevailing winds or near ridge crests of cliff edges are features that are conducive to slope soaring and are attractive features for eagles. Mountainous areas that include ridgelines and slopes with a variety of aspects such that winds from multiple directions would create deflection currents are also suitable for soaring. Saddles or low points on ridgelines or near riparian corridors may serve as flight paths. These features occur within both the Cortez Mine Project and the Phoenix Mine Project.

3.1.2 Project Areas Eagle Populations

The golden eagle nesting territories within the 10-mile radii of the Projects were delineated based on surveys conducted between 2012 and 2019 at the Cortez Mine and 2012, 2013, and 2018 at the Phoenix Mine. Within the Cortez Mine Project area, a total of 68 distinct territories were delineated, and at the Phoenix Mine Project area, a total of 13 distinct territories were delineated. Delineations were based on proximity of nests to one another, concurrent occupancy of adjacent nests, alternating occupancy (from year to year) of adjacent nests, and nearest available quality nesting substrate obtained from surveys and monitoring at the Projects.

The number of fledged young in the Cortez Project area was 27 in 2018 and 10 in 2019, with an average annual productivity of approximately 0.95 and a range from 0.59 to 1.34 fledged young per occupied (in-use) territory. The number of fledged young in the Phoenix Project area was 1.0 in 2013 and 2.0 in 2018, with an average annual productivity of approximately 1.25 and a range from 0.5 to 2.0 fledged young per occupied (in-use) territory. These generally fall within values documented for other golden eagle populations, as McIntyre (2002) reports a fledglings per occupied territory rate from 1988 to 1999 of 0.16 to 1.16. The breeding effort rates (i.e., percent of known territories that attempt breeding each year) at the Cortez Mine for 2013 through 2019 ranged from 26 to 53 percent. The breeding effort rates at the Phoenix Mine for 2012, 2013, and 2018 ranged from 36 to 53 percent. These ranges in breeding effort rates are generally consistent when compared to the values presented by Steenhof et al. (1997), which was 38 to 100 percent, and McIntyre and Adams (1999), which was 33 to 90 percent.

3.1.3 Territories Within the Projects' Plan Boundaries, One-Mile Mining Radii, and Two-Mile Pit Blasting Radii

Cortez Mine

Within the Cortez Plan boundary, including a one-mile radius of approved disturbance and a two-mile radius of approved pit blasting, there are 26 previously identified golden eagle nests. The 26 nests, which are located on natural and humanmade features, are thought to represent all or part

of 10 breeding territories. The territory delineation process is discussed in **Section 3.1.2** of this EA. Three of these territories have one or more alternate nests outside a one-mile radius of approved disturbance and a two-mile radius of approved pit blasting; therefore, they have not been included for proposed take since they have nesting alternatives at a distance likely to ameliorate impacts from disturbance. Two other territories (one of which also has a nest outside the one-mile radius of approved disturbance and two-mile radius of approved pit blasting) are being included in NGM's separate application for a disturbance take permit for the Goldrush Mine Project, and impacts will be analyzed in a separate NEPA action; thus, they are not analyzed further in this EA. One territory consists of one nest (MT-03) that was not located in 2019, 2020, 2021, or 2022 and no longer appears to be present; thus, impacts are not anticipated to occur to this territory. One territory (including nests HDC-01 and HDC-02) occurs within one mile of a rapid infiltration basin and associated infrastructure that experiences low-level light truck activity equivalent to recreational and ranching activities frequently experienced across Nevada. It has an alternate nest (HDC-01) that is not within the line of sight of any surface disturbance; thus, it is not anticipated that this territory would be impacted. Accordingly, NGM has applied to the Service for authorization for disturbance take associated with four territories at the Cortez Mine. Territory specifics, including nest cluster distances and nearest territory distances, are described in **Table 1-1**. The applicable nests and territories are also shown in **Figure 1-3**.

Phoenix Mine

Within the Phoenix Mine Plan boundary, there are two breeding territories. Both territories occur within the one-mile approved surface disturbance radius and two-mile approved pit blasting radius; thus, two territories are anticipated to be impacted by operations. Territory specifics, including nest cluster distances and nearest territory distances, are described in **Table 1-2** and shown in **Figure 1-5**.

3.1.4 Existing Stressors on the Two Projects' Eagle Populations

Mine Project Activities

Authorized Project activities in the Cortez Mine and Phoenix Mine include development of roads, blasting, drilling, moving large pieces of equipment, hauling ore, processing, and other mining-related activities. Risks to golden eagles include unintentional disturbance from activity near nest sites, such as noise and visual irritation from surface disturbance, vehicular traffic on roads, and large equipment operation. Other risks are applicable to golden eagles nesting on highwalls of active pits, which may cause nest abandonment due to the mining activities occurring nearby and within pits.

Roads

Mobile equipment (i.e., vehicles) used in operations at the Projects or traveling to or from the Projects could strike and injure or kill wildlife. Road-killed wildlife may attract scavenging eagles, which in turn could be injured or killed by vehicle collision. NGM has reduced speed limits placed on equipment and vehicles operating at the Projects. The greater risk for vehicle mortality is on area roads outside the Mine (e.g., Interstate 80 and Nevada State Route 306), which are outside NGM's control, due to higher speeds and additional traffic.

Utilities

Electrical utility infrastructure present in the Cortez Mine and Phoenix Mine includes power poles, power lines and guy wires, and transformers. These utilities present risks to eagles from electrocution and collision. Electrical transmission and distribution lines that do not include sufficient spacing between energized lines or between energized lines and ground wires represent an electrocution hazard to large birds. The Projects are not currently authorized to construct additional electrical utility infrastructure; therefore, additional electrical utility infrastructure would not be constructed by the proponent within the Cortez Mine or Phoenix Mine.

3.2 Bald Eagles

Bald eagles (*Haliaeetus leucocephalus*) are known to occur in the region, but their presence in the two Project areas is minimal. Bald eagles usually nest in mature trees or snags near open water that offers foraging opportunities and will rarely nest on cliffs in areas with no trees. Winter habitat generally includes open water and upland habitats for foraging. In addition to open water, other important habitat components for wintering eagles include suitable trees for diurnal perching and night roosting.

No bald eagle nesting or roosting habitat occurs in or near the Cortez Mine or the Phoenix Mine; however, migrating eagles do move through the state, and wintering birds would occur within the appropriate winter habitats (e.g., Humboldt River corridor). Bald eagle wintering habitat exists along the Humboldt River, approximately 30 miles north of the Cortez area. Therefore, eagle presence in the immediate vicinity of the Projects would be infrequent and limited to occasional foraging in the upland habitats. Thus, bald eagles are not expected to be affected by any construction, operational, or maintenance activities at the Cortez Mine or the Phoenix Mine, and disturbance and loss of territory of bald eagles are not expected to result from the Cortez Mine Project or the Phoenix Mine Project. Although this document addresses both bald eagles and golden eagles, because bald eagle presence in the Project areas is minimal, they are not expected to be affected by construction, operation, and maintenance of the Project; therefore, disturbance and loss of territory of bald eagles are not expected to result from the Projects. Consequently, the Applicant has not requested bald eagle take authorization for either the Cortez Mine or the Phoenix Mine.

3.3 Migratory Birds

Effects to migratory birds have been analyzed in the PEIS (USFWS 2016a). Various migratory birds have been identified in the Cortez Plan and Phoenix Plan boundaries; however, issuance of the proposed permit is not anticipated to affect one or more species of migratory birds. Additionally, NGM has committed to EPMs to reduce potential impacts to migratory birds within the Cortez Plan and Phoenix Plan boundaries (BLM 2003, 2008a, 2011a, 2012, 2015, 2018, and 2019).

3.4 Species Listed under the Endangered Species Act

There are no federally threatened or endangered species listed under the Endangered Species Act of 1973, as amended (ESA) (16 U.S.C. §§ 1531–1544), or potential habitat within the Cortez Plan and Phoenix Plan boundaries (BLM 2003, 2008a, 2011a, 2012, 2015, 2018, and 2019). Moreover, the Service's decision regarding the requested two eagle take permits would not alter the physical footprint of the Cortez Mine Project or the Phoenix Mine Project and therefore would not alter the impacts to federally threatened and endangered species in the two Plan boundaries.

3.5 Cultural and Socioeconomic Interests

Bald and golden eagles are important symbols of U.S. history and sacred to many Native American cultures. Some Native American cultures utilize eagles, eagle feathers, and other eagle parts for religious practices and cultural ceremonies. Outside of rituals and practices, wild eagles as live beings are deeply important to many Tribes (Lawrence 1990, as cited by USFWS 2016a). Numerous Tribes confirmed the importance of wild eagles during scoping and Tribal consultation for the PEIS. The Proposed Action and considered alternatives would not impact cultural or socioeconomic interests beyond the impacts already discussed in the PEIS. Therefore, cultural and socioeconomic interests will not be analyzed further in this EA.

3.6 National Historic Preservation Act

The Projects have not changed in scope, timing, or duration since analyzed in previously completed NEPA analysis (BLM 2003, 2008a, 2011a, 2012, 2015, 2018, and 2019). As such, NHPA compliance occurred during these authorizations and is not analyzed further in this EA.

3.7 Climate Change

Climate change was considered in the PEIS (USFWS 2016a, section 3.9, page 144) and is incorporated by reference here.

4.0 ENVIRONMENTAL CONSEQUENCES

This section summarizes the effects on the environment of implementing the Proposed Action or alternatives to the action. The discussion of overall effects to the environment of the eagle take permit program is provided in the PEIS (USFWS 2016a) and is incorporated by reference here. This section of this EA analyzes only the effects that were not analyzed in the PEIS (USFWS 2016a) that may result from the issuance of two eagle take permits applicable to the Projects. In this analysis, and in our consideration of take authorization to the Applicant for the Cortez Mine and the Phoenix Mine, each incident of take results in loss of productivity for a single season for a single eagle breeding pair. Take that may result in injury or mortality of eagles is not expected, nor would it be authorized under this permit. While the available data indicate that currently known breeding territories are most likely to be impacted by mine-related activities, as these pairs have nests located in the vicinity of the Projects, eagle populations are dynamic with shifting territory boundaries, and eagle pairs may establish new nest locations. New territories and new nesting locations may be identified within or in proximity to the Projects over the life of the permits. When considering the potential for effects to eagles from activities at the Cortez Mine and Phoenix Mine, we also took into account the possibility for golden eagle pairs to build nests in new locations that may be both closer to and farther away from activities at the Projects. Disturbance take authorization would only be necessary when breeding eagles have an in-use nest (see 50 CFR § 22.6 for "in-use nest" definition) within one mile of Project activities or two miles of blasting, as nesting eagles within these distance buffers have an increased likelihood of disturbance.

4.1 Alternative 1: Proposed Action

In determining the significance of effects of the two Projects on eagles, we confirmed that the Proposed Action of issuing an eagle take permit for the take of golden eagles does not deviate from the analysis provided in the PEIS (USFWS 2016a) and the Service's 2016 report *Bald and Golden Eagles: Population Demographics and Estimation of Sustainable Take in the United States, 2016 Update* (USFWS 2016b). We also assessed effects specific to the Cortez Mine and Phoenix Mine to eagles that were not covered in PEIS analysis. These effects may occur at the project scale, at the local-area eagle population scale, and at the regional EMU scale.

4.1.1 Direct and Indirect Effects

The Applicant is requesting authorization for disturbance to and loss of annual productivity from four golden eagle breeding pairs at the Cortez Mine and two breeding pairs at the Phoenix Mine, each under a separate permit authorization. Under the Proposed Action, we would issue 30-year permits for each Project. The applicable breeding pairs have territories with nests within proximity to mine activities where disturbance preventing successful nesting would occur as a result of the Projects. The Proposed Action would authorize the disturbance to and loss of annual productivity from the applicable breeding pairs associated with the Cortez Project and Phoenix Project.

The Proposed Action could have a direct impact to the golden eagles in the four breeding pairs at the Cortez Mine and the two breeding pairs at the Phoenix Mine resulting from the presence of

mining in close proximity to their nests, thus causing potential negative impacts to golden eagle breeding and nesting activities.

Disturbance of an occupied golden eagle territory is assumed to result in loss of annual productivity (i.e., number of young reared) from that territory. The Service uses an estimate of 0.59 golden eagle young fledged per occupied nesting territory per year (USFWS 2016c) to estimate loss of annual productivity.

Along with the monitoring and minimization measures outlined in **Section 2.3**, the Applicant would provide compensatory mitigation to offset the proposed take. To determine the amount of mitigation required, the Service's Golden Eagle REA was used (USFWS 2018). The values described above are directly entered into the REA to calculate the required compensatory mitigation to offset disturbance of the breeding pair for 30 years, which would be evaluated every five years.

Based on updated Eagle Act permit regulations, a compensatory mitigation ratio of 1.2:1 is used. The 1.2:1 ratio for compensatory mitigation achieves a net benefit to golden eagle populations, ensuring that regional eagle populations are maintained consistent with the preservation standard of the Eagle Act despite indications of declines in golden eagle populations (USFWS 2016a). Using the REA, the Applicant would offset the take of golden eagles at the Projects for the first five-year permit period by contributing to a Service-approved fund or an approved in-lieu fee program in the amount equal to retrofitting the following:

- Cortez Mine: Approximately 444.41 poles (avoided loss from retrofits maintained and effective for up to 10 years) or 193.41 poles (avoided loss from retrofits maintained and effective for up to 30 years) under the Proposed Action.

- Phoenix Mine: Approximately 222.21 poles (avoided loss from retrofits maintained and effective for up to 10 years) or 96.71 poles (avoided loss from retrofits maintained and effective for up to 30 years) under the Proposed Action.

The final power pole number depends on the type and expected longevity of each retrofit. As the implementation of compensatory mitigation would fully offset the estimated take for the Projects and would provide additional net benefit to eagle populations, there would be no significant negative impacts to eagle populations from issuing an eagle take permit under the Proposed Action.

The Service uses electric utility power pole retrofitting to offset authorized take of golden eagles. Electrocution from power poles is known to be a major cause of eagle mortality. Power poles can be retrofitted by verified methods (such as insulating or covering electrical components or modifying pole elements to increase the distance between electrical components) to reduce the risk of electrocution to eagles, with the maintenance and efficacy of retrofits confirmed through post-installation inspections and monitoring. The effects of retrofitting power poles have been quantified "per eagle," allowing use of the REA to calculate the number of power pole retrofits needed to offset the authorized take of golden eagles (USFWS 2013).

Eagle Act regulations require compensatory mitigation to be conducted in the same EMU in which the take occurs. The Projects are located in the Pacific Flyway EMU. The site of power poles to be retrofitted has not yet been determined but would be in the Pacific Flyway.

In addition, the Proposed Action incorporates adaptive management and minimization measures as described in **Section 2.3**. The proposed Applicant-committed measures would be required to be implemented to further reduce the risk of Project-related injury or mortality hazards to eagles within the boundaries of the Cortez Mine and Phoenix Mine.

The Proposed Action meets the purpose and need as they are consistent with the Eagle Act and its regulations and adequately addresses the risk of take at the Projects.

Bald Eagles

Because the Cortez Project and Phoenix Project have not changed in scope, timing, or duration, no significant adverse effects are foreseen to bald eagles as a result of issuance of the two permits (BLM 2003, 2008a, 2011a, 2012, 2015, 2018, and 2019). Although take of bald eagles is not expected to occur at these Projects and take of bald eagles would not be permitted, bald eagles in the region may benefit from avoidance and minimization measures established to reduce the risk to golden eagles. Bald eagles may benefit from compensatory mitigation actions provided to offset the take of golden eagles under the Proposed Action.

Migratory Birds

Because the Cortez Project and Phoenix Project have not changed in scope, timing, or duration, no significant adverse effects to migratory bird populations are expected as a result of the issuance of the two permits (BLM 2003, 2008a, 2011a, 2012, 2015, 2018, and 2019). Issuance of eagle take permits to the Projects may also provide benefits to migratory birds. Power pole retrofits done as compensatory mitigation for the eagle take permits may minimize electrocution risk for raptors and other migratory birds, just as with eagles.

Species Listed under the ESA

Because the Cortez Project and Phoenix Project have not changed in scope, timing, or duration, no significant adverse effects are foreseen to endangered species as a result of the issuance of the two permits (BLM 2003, 2008a, 2011a, 2012, 2015, 2018, and 2019).

4.1.2 Cumulative Effects

The purpose of this cumulative effects evaluation is to identify situations where the eagle disturbance take proposed under the Proposed Action, combined with take from other past, present, or foreseeable future actions and sources, may be approaching levels that are biologically problematic or that cannot reasonably be offset through compensatory mitigation. Effects of take may be cumulative at the project scale, at the local-area eagle population scale, and at the EMU scale.

At the scale of the Cortez Mine Project and Phoenix Project, the alteration of the eagle habitat from mine-related activities could cause shifting in eagle pair territory boundaries in the vicinity of the Projects, which could cause increased antagonistic interactions with surrounding eagle pairs, potentially creating a ripple effect of impacts to eagles in areas surrounding the Projects.

To ensure that eagle populations at the local scale are not depleted by cumulative take in the local area, the Service analyzed in the PEIS (USFWS 2016a) the amount of take that can be authorized while still maintaining LAP of eagles. The LAP scale is defined for eagles as the median natal dispersal distance for the given species, which for golden eagles is a 109-mile radius (USFWS 2016b). In order to issue a permit, cumulative authorized take must not exceed five percent of a LAP unless the Service can demonstrate why allowing take to exceed that limit is still compatible with the preservation of eagles. Eagle take permit regulations require the Service to conduct an individual LAP analysis for each permit application as part of the application review.

Therefore, the Service considered cumulative effects to the LAP surrounding the Cortez Mine Plan boundary and Phoenix Mine Plan boundary (**Figure 4-1**) to evaluate whether the take to be authorized under each permit, together with other sources of permitted take and unpermitted eagle mortality, may be incompatible with the persistence of the LAP of the Cortez Mine Project and Phoenix Mine Project. Data provided by NGM, data on other eagle take authorized and permitted by the Service, and information regarding other reliably documented unauthorized eagle mortalities have been incorporated to estimate cumulative impacts to the LAP. The cumulative effects analysis was conducted as described in the Service's *Eagle Conservation Plan Guidance* (USFWS 2013).

The combined LAP for the Cortez Project and Phoenix Mine Project was estimated to be 787.03 golden eagles. The five percent benchmark for authorized take of that LAP is 39.35 eagles, while current authorized take in the LAP, including that estimated to occur at the Cortez Project and Phoenix Project, is 4.51 golden eagles, or 0.57 percent of the LAP per year. The take that would be authorized by this permit for the Projects does not exceed one percent of the LAP, so it would not significantly impact the LAP (**Appendix C**).

Additionally, take of eagles has the potential to affect the larger eagle population. Accordingly, the 2016 PEIS (USFWS 2016a) analyzed the cumulative effects of permitting take of golden eagles in combination with ongoing unauthorized sources of human-caused eagle mortality and other present or foreseeable future actions affecting golden eagle populations. The Service established that golden eagles could sustain population levels at a 10 percent take threshold. Unpermitted take levels essentially meet the 10 percent threshold; thus, there is no capacity for unmitigated take. Adult golden eagle populations are currently at an equilibrium level that would likely not sustain further unmitigated mortality (USFWS 2016a). Over the past 30 years, the Service knows of 300 golden eagles killed by a variety of causes within the LAP (**Appendix C**). This is approximately 14.29 golden eagles killed per year. This annual unpermitted take is approximately 1.8 percent of the LAP. As part of the analysis, the Service determined sustainable limits to permitted take within each EMU. The take that would be authorized by this permit would be offset by the compensatory mitigation that would be provided by the Applicant, so it would not significantly impact the EMU eagle population. The minimization measures that would be required under the permit, along with the additional adaptive management measures, are designed to further

ensure that the permit is compatible with the preservation of golden eagles at the regional EMU population scale.

4.2 Alternative 2: No Action Alternative

4.2.1 Direct and Indirect Effects

The Service assumes the rate of take is the same under the Proposed Action and No Action Alternative, but under the No Action Alternative, the Service would take no action on the permit applications. The two permits would not be issued, and compensatory mitigation would not be required. Under this alternative, direct impacts of the Projects on the golden eagle population would be assumed to be loss of productivity of four breeding pairs at the Cortez Mine and two breeding pairs at the Phoenix Mine, impacting six breeding pairs annually over 30 years, and this take would not be offset by compensatory mitigation. The Applicant would continue to implement the avoidance and minimization measures for the Projects as described in **Section 2.3**; however, additional measures outside of those referenced in **Section 2.3**, including compensatory mitigation, would not be implemented.

This alternative does not meet the purpose and need for the action because, by regulation (50 CFR § 13.21), when in receipt of a completed application, the Service must either issue or deny a permit to the Applicant. The No Action Alternative also does not meet the purpose of and need for the action because it would result in the adverse, unmitigated effects to golden eagles described above, and these effects are not compatible with the preservation of golden eagles.

Bald Eagles

The Applicant did not apply for take authorization for bald eagles, nor is take of bald eagles expected to occur from activities at the Cortez Mine and Phoenix Mine. However, the No Action Alternative would mean benefits that bald eagles might also incur from avoidance and minimization measures established to reduce the risk to golden eagles and compensatory mitigation actions provided to offset the take of golden eagles would not occur.

Migratory Birds

Any incidental benefits to migratory birds from minimization measures and compensatory mitigation required under the eagle take permits would not be realized under the No Action Alternative.

Species Listed under the ESA

There are no federally threatened or endangered species listed under the ESA (16 U.S.C. §§ 1531–1544) or potential habitat within the Cortez Plan and Phoenix Plan boundaries (BLM 2003, 2008a, 2011a, 2012, 2015, 2018, and 2019). Moreover, the Service's decision regarding the requested two eagle take permits would not alter the physical footprint of the Cortez Mine Project or the Phoenix Mine Project and therefore would not alter the impacts to federally threatened and endangered species in the two Plan boundaries.

4.2.2 Cumulative Effects

Cumulative impacts are defined as incremental impacts of the action on the environment when added to other past, present, and reasonably foreseeable future actions. The geographic extent for the analysis of cumulative impacts is within a 175-kilometer (109-mile) radius surrounding the Projects, which represents the average natal dispersal distance of golden eagles (USFWS 2016a). There is incomplete information available regarding the level of unpermitted golden eagle take in the geographic extent for the analysis of cumulative impacts; thus, golden eagle take in the past, present, and foreseeable future is not fully known. Over the past 30 years, the Service knows of 300 golden eagles killed by a variety of causes (**Appendix C**). This is approximately 14.29 golden eagles killed per year. This annual unpermitted take is approximately 1.8 percent of the LAP. Taken together with permitted golden eagle take (i.e., 0.57 percent of the LAP), the cumulative impacts from mining activities undertaken by NGM may be around 2.37 percent of the LAP and would therefore be compatible with the preservation of golden eagles (**Appendix C**).

4.3 Comparison of Effects of Alternatives

The main differences between the Proposed Action and No Action Alternative are the issuing of permits with compensatory mitigation requirements to offset the permitted take under the Proposed Action and the level of concurrent and post-construction monitoring that would occur (**Table 4-1**). The Service assumes the rate of take is the same under the Proposed Action and No Action Alternative, but under the No Action Alternative, compensatory mitigation would not be required, and the impacts to golden eagles would not be authorized or offset.

The Proposed Action is likely to have no significant impacts on golden eagles, as there is no unmitigated take, and the Proposed Action meets all regulatory requirements and the conservation standard set forth in the 2016 PEIS (USFWS 2016a).

Table 4-1 Comparison of the Proposed Action and No Action Alternative

	Alternative 1: Proposed Action	**Alternative 2: No Action Alternative**
Eagle Take Levels	Loss of productivity from four golden eagle breeding pairs at the Cortez Mine and two breeding pairs at the Phoenix Mine for a 30-year period.	Same as detailed under the Proposed Action.
Avoidance and Minimization	NGM has and will continue to implement the measures to minimize impacts to golden eagles at the Projects as outlined in **Section 2.3**.	Same as detailed under the Proposed Action, as the Applicant is committed to these measures under previous BLM authorizations even without issuance of the two permits.
Compensatory Mitigation	Retrofitting of power poles to offset the loss from four golden eagle breeding pairs at the Cortez Mine and two breeding pairs at the Phoenix Mine over the life of the two 30-year permits, evaluated and mitigated in five-year periods.	None provided.

	Alternative 1: Proposed Action	Alternative 2: No Action Alternative
Detection and Reporting	NGM will continue to meet its BLM requirements under previous BLM authorizations as well as implement an eagle nest site reporting and detection system to ensure that environmental personnel adhere to the appropriate actions should a previously unidentified nest, injured eagle, or deceased eagle be identified. NGM will implement EPM-1 and EPM-2, as specified in **Table 2-1** and **Table 2-2**.	Same as detailed under the Proposed Action, as the Applicant is committed to these measures under previous BLM authorizations even without issuance of the two permits.
Unmitigated Eagle Take	None.	Loss of productivity from four golden eagle breeding pairs at the Cortez Mine and two breeding pairs at the Phoenix Mine for a 30-year period.
Adaptive Management	NGM will provide the Service with eagle monitoring information at minimum every five years (50 CFR § 22.80[c][7][iii]). Conditions of the two permits would require annual reporting of methods and results of the monitoring described above. The Service would use this information to assure that the permittee remained compliant with the two permits, assess if there were any needed adjustments to the two permits, and determine future mitigation payment needs. NGM will coordinate with the Service regarding any concerning golden eagle activity beyond what is described in this EA. NGM will also review all future mine projects during the planning stage and identify potential risks these future projects may have on the area golden eagle population.	None.
Data Collection/Monitoring	NGM will monitor golden eagle nests within the two Plan boundaries for the duration of the permits in accordance with Pagel et al. (2010). Additionally, a pre-egg laying survey will determine territorial occupancy in the Projects' boundaries. NGM will also document any Project-related mortality, including monitoring the alignments of power lines for electrocuted birds within the two Plan boundaries and monitoring hazardous waste–containing facilities for any failures of the mines' exclusion systems for the lives of the permits. NGM will implement EPM-1 and EPM-2, as specified in **Table 2-1** and **Table 2-2**.	NGM will conduct annual monitoring in accordance with Pagel et al. (2010) for the Projects, as the Applicant is committed to these measures even without issuance of the permits.

	Alternative 1: Proposed Action	Alternative 2: No Action Alternative
Company Liability for Eagle Take	None, if NGM is in compliance with permit conditions.	Yes.
Meets Eagle Act Regulatory Requirements	Yes.	No.

5.0 MITIGATION AND MONITORING

The Proposed Action incorporates measures to minimize and avoid impacts to the maximum degree practicable, as required by regulation. To ensure that regional eagle populations are maintained consistent with the preservation standard, regulations require that any golden eagle take that cannot practicably be avoided and is above EMU take limits must be offset by compensatory mitigation at a 1.2:1 ratio. As golden eagle take limits for all EMUs were determined to be zero (USFWS 2016a), compensatory mitigation is necessary to offset any authorized take of golden eagles. The 1.2:1 ratio for compensatory mitigation achieves a net benefit to golden eagle populations, ensuring that regional eagle populations are maintained consistent with the preservation standard of the Eagle Act despite indications of declines in golden eagle populations (USFWS 2016a). As this would fully offset the estimated take, as well as provide an additional net benefit to eagle populations, there would be no significant effects to eagle populations from issuing the two eagle take permits under the Proposed Action. **Sections 2.1.1** and **2.3** provide details of the compensatory mitigation and minimization measures that would be completed under the Proposed Action.

NGM will monitor eagle territory occupancy and nesting activities using independent, third-party monitors that report directly to the Service annually. At five-year intervals, the Service will review the eagle data and other pertinent information, as well as information provided by NGM and independent third-party monitors, assessing whether NGM is in compliance with the terms and conditions of the permits and has implemented all applicable adaptive management measures specified in the permits and ensuring eagle take has not exceeded the amount authorized within that time frame. We will update fatality predictions, authorized take levels, and compensatory mitigation, as needed, for future years of the permits. If authorized take levels for the period of review are exceeded in a manner or to a degree not addressed in the adaptive management conditions of the permits, based on the observed levels of take using approved protocols for monitoring and estimating total take, the Service may require additional actions, including but not limited to adding, removing, or adjusting avoidance, minimization, or compensatory mitigation measures; modifying adaptive management conditions; modifying monitoring requirements; and suspending or revoking the permits.

6.0 LIST OF PREPARERS AND REVIEWERS

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- Nora Pennarola, Project Manager, U.S. Fish and Wildlife Service
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- Maggie Corbari, Nevada Gold Mines LLC
- Josh Roderick, Nevada Gold Mines LLC

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FIGURES

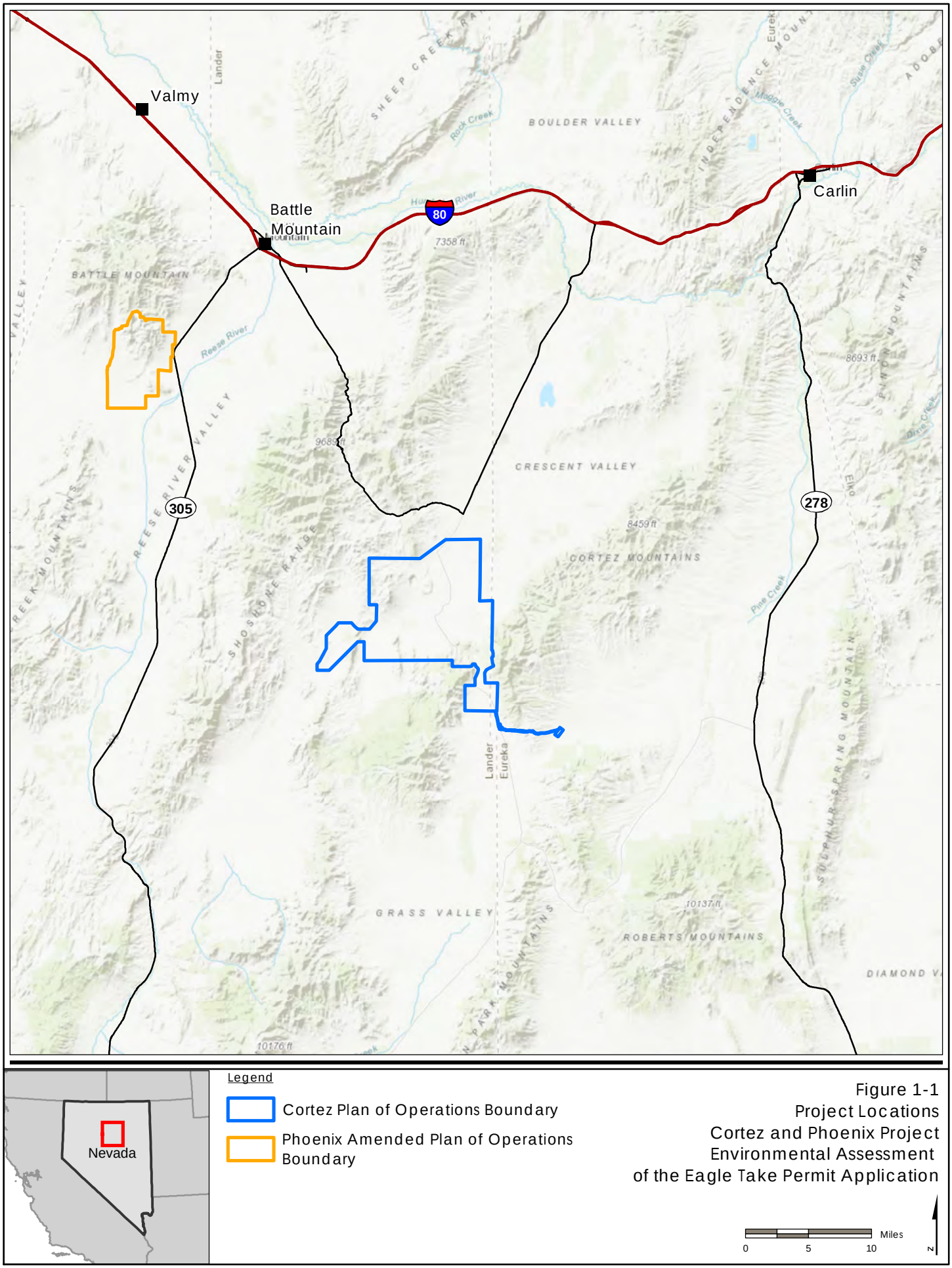
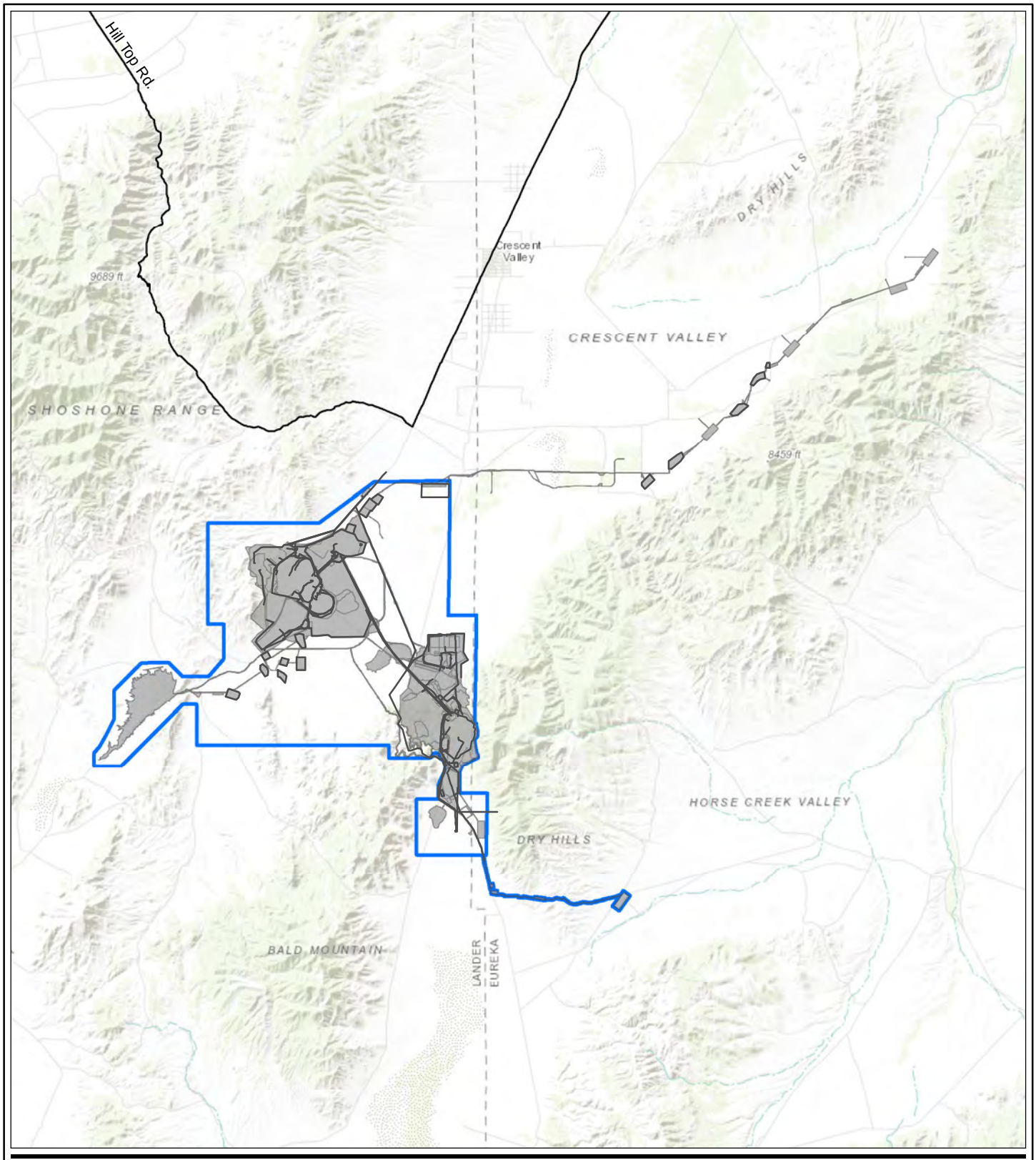


Figure 1-1
Project Locations
Cortez and Phoenix Project
Environmental Assessment
of the Eagle Take Permit Application



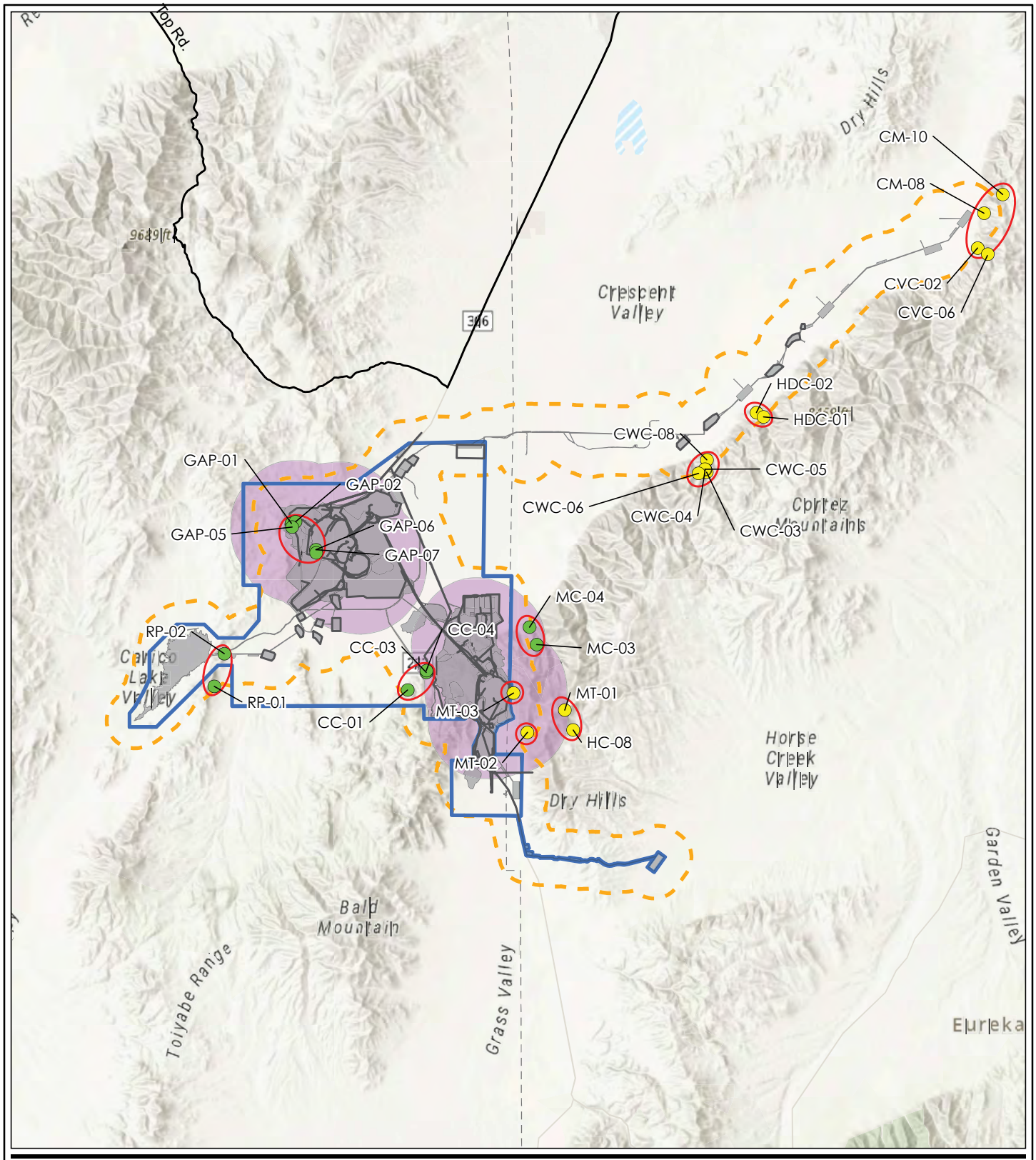
Legend

Cortez Plan of Operations Boundary

Cortez Authorized Disturbance

Figure 1-2
Authorized Facilities
Cortez Mine Project
Environmental Assessment
of the Eagle Take Permit Application

Miles
0
2.5
5
N



Legend

- Cortez Plan of Operations Boundary
- Cortez Authorized Disturbance
- One-Mile Radius of Authorized Disturbance
- Pit Blasting Two-Mile Radius
- Golden Eagle Nest Territory
- Golden Eagle Nest
- Golden Eagle Nest Subject to Take

Figure 1-3
Territories within Proximity of Authorized Mining
Cortez Mine Project
Environmental Assessment of the Eagle Take Permit Application

Miles
0 2.5 5
N

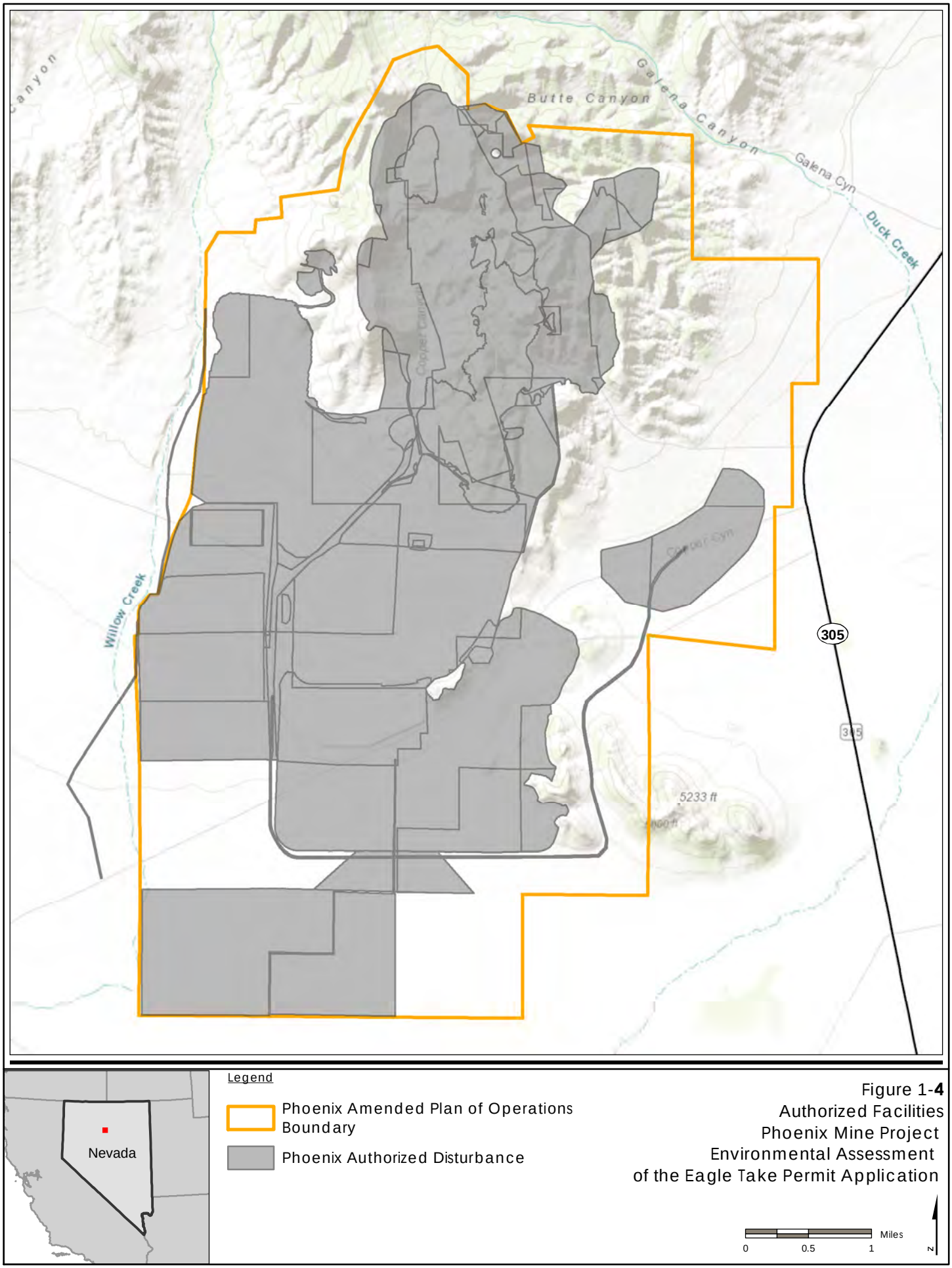


Figure 1-**4**
Authorized Facilities
Phoenix Mine Project
Environmental Assessment
of the Eagle Take Permit Application

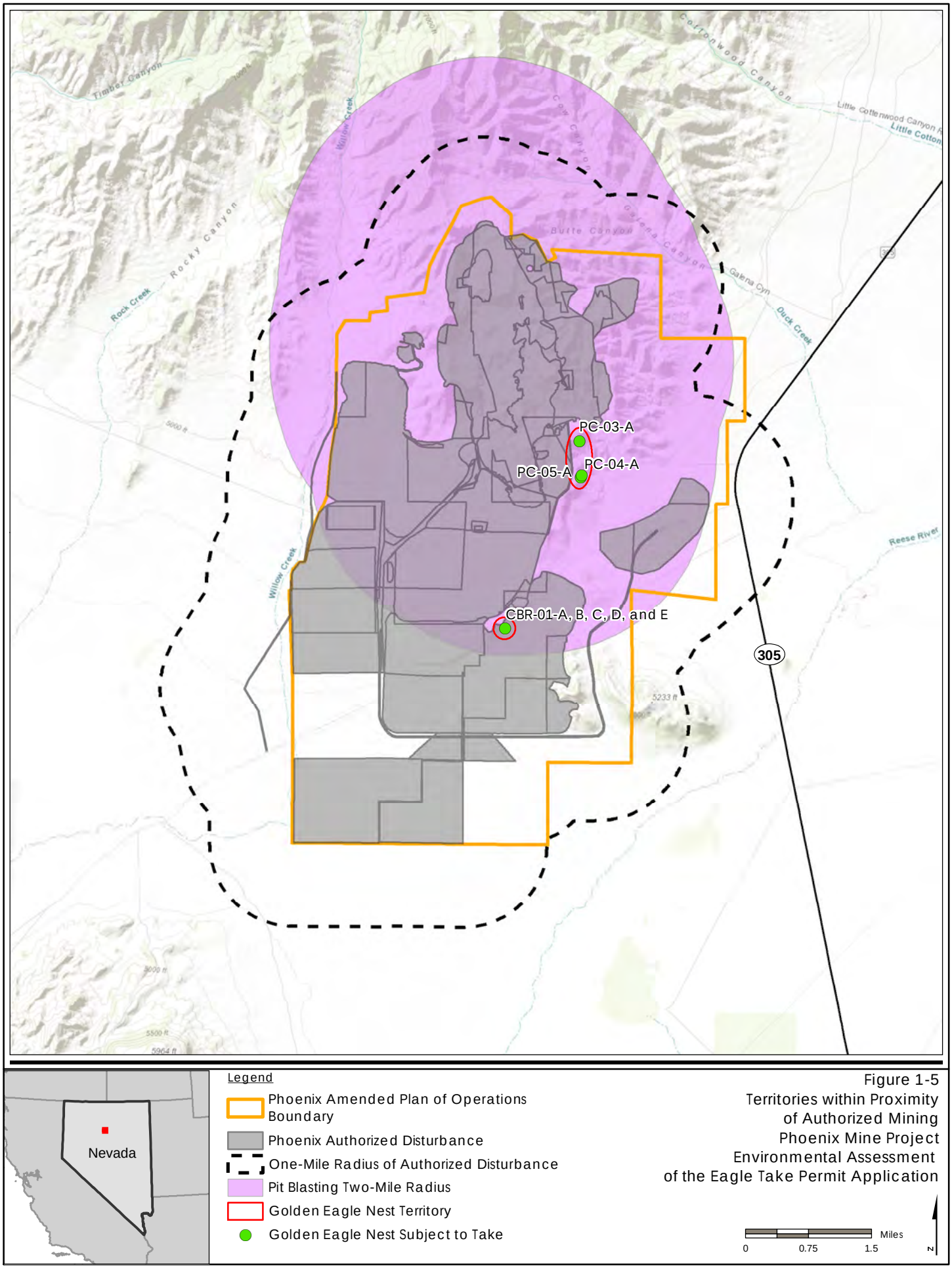


Figure 1-5
Territories within Proximity of Authorized Mining
Phoenix Mine Project
Environmental Assessment of the Eagle Take Permit Application

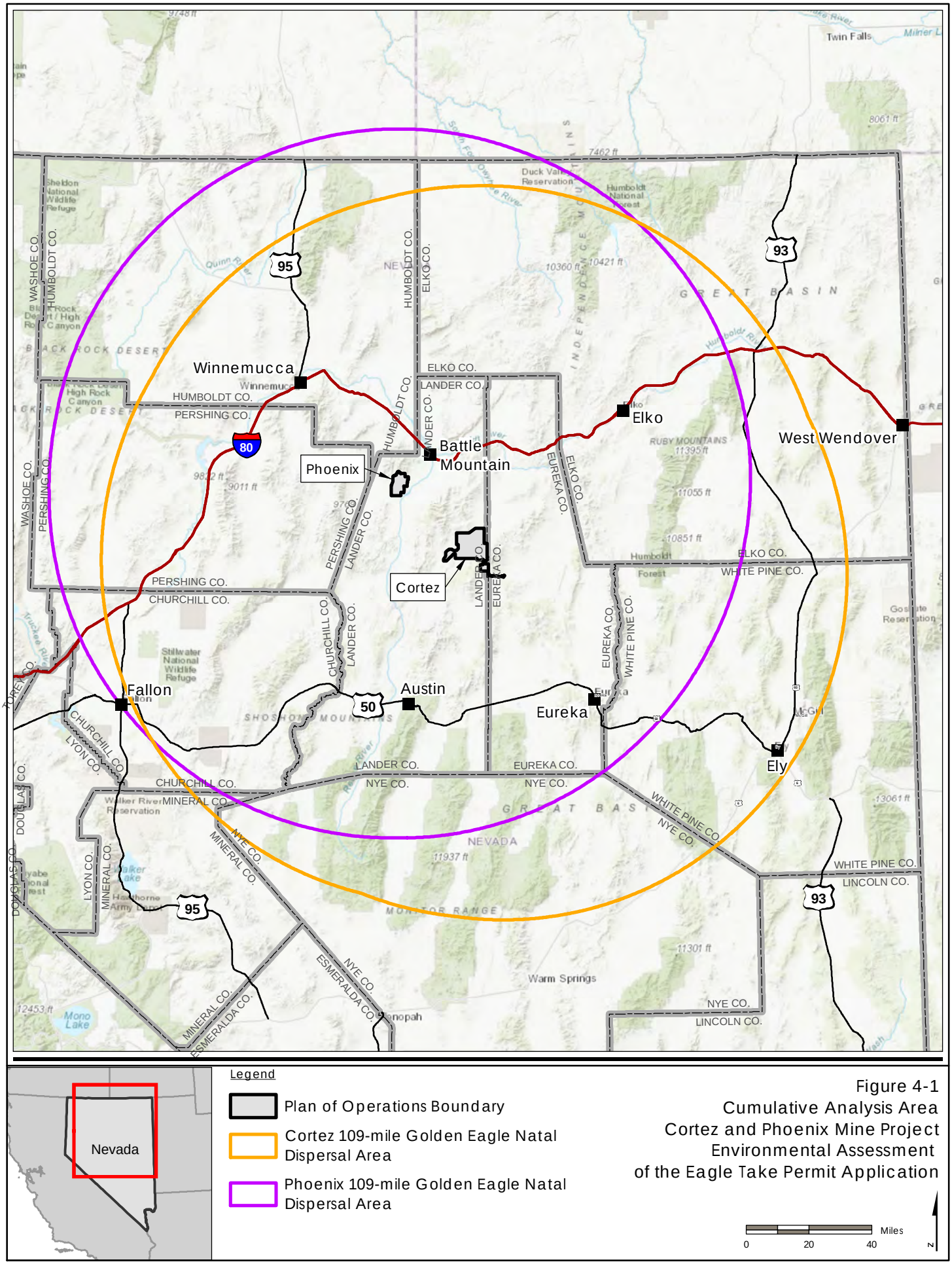


Figure 4-1
Cumulative Analysis Area
Cortez and Phoenix Mine Project
Environmental Assessment
of the Eagle Take Permit Application

APPENDIX A

Eagle Conservation Plan, Cortez Mine Project

EAGLE CONSERVATION PLAN
CORTEZ MINE PROJECT
LANDER AND EUREKA COUNTIES, NEVADA

Prepared for:

Nevada Gold Mines LLC
Cortez District
HC 66 Box 1250
Crescent Valley, Nevada 89821

May 2024

TABLE OF CONTENTS

ACRONYMS AND ABBREVIATIONS

BGEPA	Bald and Golden Eagle Protection Act of 1940, as amended
BLM	Bureau of Land Management
CFR	Code of Federal Regulations
Cortez	Cortez Mine
ECP	Eagle Conservation Plan
EMU	Eagle Management Unit
HLF	Heap leach Facility
HLP	Heap Leach Pad
NDOW	Nevada Department of Wildlife
NGM	Nevada Gold Mines LLC
Plan	Plan of Operations
Project	Cortez Mine Project
REA	Resource Equivalency Analysis
RIB	Rapid Infiltration Basin
study area	Project Footprint and a Surrounding 10-mile Buffer Area
SWReGAP	Southwest Regional Gap Analysis Project
USFWS	United States Fish and Wildlife Service

1.0 PURPOSE OF THIS PLAN

The purpose of this Eagle Conservation Plan (ECP) is to support application(s) for a golden eagle (*Aquila chrysaetos*) nest take permit under the permit regulations of the Bald and Golden Eagle Protection Act (BGEPA) of 1940, as amended. Specifically, Nevada Gold Mines LLC (NGM) is requesting a take permit issued by the United States Fish and Wildlife Service (Service or USFWS) under 50 Code of Federal Regulations [CFR] § 22.26 for the incidental take of golden eagles from otherwise lawful activities associated with the Cortez Mine (Cortez) Project (Project). The Project is located in Lander and Eureka counties, Nevada (**Figure 1**). Cortez is a complex of mining areas approved by the Bureau of Land Management (BLM) Battle Mountain District Office in Lander County, Nevada.

The Bald and Golden Eagle Protection Act of 1940 (BGEPA), as amended, prohibits the "take" of bald and golden eagles. BGEPA defines "take" to include "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb," and prohibits take of individuals and their parts, nests, or eggs. "Disturb" is further defined as "means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior". Permitting regulations (50 CFR Part 22) were issued in 2009 and revised in 2016. Known as the "Eagle Permitting Rule," these regulations allow the USFWS to administer a permit program allowing for the lawful take of eagles and nests.

Cortez has prepared this ECP to support a BGEPA eagle "take" permit application. This ECP provides the necessary support materials to accompany an eagle nest take permit application and demonstrates that the proposed take is compatible with the preservation of golden eagles and the issuance criteria in 50 CFR § 22.26. This ECP will accompany the eagle nest take permit application requesting approval for reoccurring disturbance to and loss of annual productivity from up to four golden eagle breeding pairs' territories for a 30-year period.

An application for a take permit under 50 CFR § 22.26 requires the information listed below. Also provided is a reference to where in this ECP that information is provided.

- Identification of the species proposed to be taken, the amount of take, and the type of take (e.g., disturb, incidental mortality, or injury) (see **Section 5**).
- The duration of the permit (see **Section 1**).
- A description of the Project activity as it relates to eagles, including:
    - A description of the activity (see **Sections 2** and **5**);
    - The dates the activity will start and is projected to end (see **Section 1**);
    - An explanation of why the take of eagles is necessary, including what interests will be protected by the Project or activity (see Sections 2, 5, and 8); and
    - The location of the activity, including maps, photographs, and geographic coordinates, as appropriate (see **Figures 1** through **15**).
- Information about eagle activity relevant to the Project activity, including:

    - A description of the type of eagle activity (e.g., nesting, roosting, important use area, etc.) (see Sections 3 and 4);
    - Location of the eagle activity, including geographic coordinates and, as appropriate, maps, digital photographs, and other information (see Sensitive Area Golden Eagle Information Report for Cortez Mine District [NGM 2021]);
    - History of the nest occupation, roost area, or important use area, if known (see Section 4 and Sensitive Golden Eagle Information Report for Cortez Mine District [NGM 2021]); and
    - If known, the specific distance and locations of nests and other eagle use areas from the Project footprint (see Section 4 and Sensitive Area Golden Eagle Information Report for Cortez Mine District [NGM 2021]).

- If take is in the form of disturbance, information about the following:
    - Whether the activity will be visible to eagles in the eagle use areas or whether are there visual buffers such as screening vegetation or topography that blocks the view (see **Figures 4 through 15**);
    - The extent of existing activities in the vicinity that are similar in nature, size, and use to the activity and the distance between those activities and the important eagle use areas (see Section 2 and **Figures 1** through **15**);

- A detailed description of all avoidance, minimization, mitigation, and monitoring measures incorporated into the planning for the activity will be implemented to reduce the likelihood for take of eagles (see Sections 6, 7, and 8).

- Project-specific monitoring and survey protocols, take probability models, and any other applicable data quality standards and all the data thereby obtained (see Section 8 and Sensitive Area Golden Eagle Information Report for Cortez Mine District [NGM 2021]).

2.0 INTRODUCTION AND BACKGROUND

Mining in the Cortez Mining District began with the discovery of silver ore in 1862. Underground silver mining was conducted in the area until the 1930s. Modern production of gold in the area started in the 1940s, and mining activities have continuously occurred in the area through the present time.

NGM's currently approved Plan of Operations (Plan) boundary is 62,372 acres, with disturbance approved to occur on up to 20,498 acres in Eureka and Lander counties (**Figure 1**). Approved and existing mining and processing facilities are located in four main areas known as the Cortez, Cortez Hills, Pipeline, and Gold Acres complexes (**Figure 2**). Collectively, these areas make up the Cortez Mine Project. The Cortez and Cortez Hills complexes are located on the western flank of Mount Tenabo in the Cortez Mountains on the southeast side of Crescent Valley, approximately seven miles southeast of the Pipeline Complex. The Gold Acres Complex is located directly west of the Pipeline Complex. Because mineral mining is dependent on the status of the economy, consumer demand, and commodity pricing, long-term planning for mines has a level of variability and uncertainty inherent in their operations. Currently, Cortez estimates that the Crossroads Pit (Pipeline Complex) will be completed in 2025, and mining of the Gold Acres Complex would start in about 2030.

NGM may conduct surface disturbance associated with the areas shown in gray on **Figure 2**. Blasting to break up rock for processing may occur in any of the authorized pit locations. These areas are also shown on **Figure 2**. A summary of authorized activities for each area is described below.

The Cortez Complex is approved for:

- Three open pits (Cortez, Ada 52, and F-Canyon);
- Two pit partial backfill areas (Cortez Pit and Ada 52 Pit);
- One pit backfill area (F-Canyon Pit);
- Three heap leach facilities (HLF) (closed);
- Four waste rock facilities (Cortez, Cortez East, Ada 52 Top, and F-Canyon);
- One tailings area composed of eight ponds (Ponds 1 through 4 and 6 [closed], Pond 5 [approved as a settling pond for the Cortez Hills underground operations], Pond 7 [open but not currently in use], and Pond 8 [approved but not constructed]);
- Ancillary facilities still in use, including administration buildings, truck shop, underground portals, and surface support facilities in the F-Canyon Pit for underground operations, power infrastructure, pumpback/remediation systems, range front declines, and an underground portal; and
- Cross-valley water pipelines to the Pipeline infiltration basins and process facilities.

The Cortez Hills Complex is approved for:

- One open pit (Cortez Hills with Pediment East and Pediment South extensions);
- One pit backfill area (Cortez Hills Pit);
- One HLF;

- Three waste rock facilities (Canyon, North, and South);
- A water treatment plant and associated facilities; and
- Ancillary and support areas.

The Pipeline Complex is approved for:

- One open pit complex (Pipeline Pit Complex, inclusive of the Pipeline, Crossroads, and GAP pits);
- Two waste rock facilities (GAP and Pipeline);
- Two pit backfill areas (Pipeline Pit and GAP Pit);
- Pipeline Mill for processing mill-grade oxide ore;
- Two HLF (Pipeline [Area 28] and Pipeline South Area [Area 30]);
- One tailings impoundment (Pipeline [Area 28]);
- Ancillary and support areas; and
- Dewatering facilities and infiltration basins.

The Gold Acres Complex is approved for:

- One open pit (Gold Acres) and three satellite pits (Alta, Bellwether, and Pasture);
- Three waste rock facilities (Gold Acres North, Gold Acres South, and Gold Acres East);
- HLF (closed);
- Buildings and ancillary support facilities (e.g., mine operations office, septic system, fuel skid, water pipeline, power infrastructure);
- Class III waivered landfill;
- 90-day temporary hazardous materials storage facility (oil, etc.);
- Hydrocarbon bio-remediation facilities;
- Blasting materials storage area; and
- Refractory ore stockpile and growth media stockpile.

Additional water management items not tied to a specific complex include:

- Rapid Infiltration Basins (RIBs) and associated infrastructure in Grass Valley, Pine Valley, and on private land outside of Cortez Operations Area in Crescent Valley.
- Construction of the Rocky Pass Reservoir and associated infrastructure, if needed, and realignment a segment of County Road 225 to provide public access around the reservoir.

A summary of avoidance and minimization measures in place at Cortez that relate to golden eagles are included in Section 6.0.

3.0 AREA HABITATS

The ECP Guidance Module 1–Land-based Wind Energy, Version 2 recommends that an analysis of potential impacts on nesting golden eagles include the Project footprint itself and a surrounding 10-mile buffer area (study area) (**Figure 1**).

3.1 FORAGING HABITAT

Vegetation communities in the study area have been mapped by the Southwest Regional Gap Analysis Project (SWReGAP) in land cover files for the study area (**Figure 3**) (USGS, 2011). The SWReGAP mapping shows 30 vegetation communities occurring within the study area. **Table 1** presents the total acres of the vegetation communities within the study area. Golden eagle prey species such as black-tailed jackrabbits, mountain cottontails, and larger diurnal rodents such as yellow-bellied marmots are commonly found in many of the vegetation communities present in the Project Area.

Table 1 SWReGAP Vegetation Communities within the Study Area

Vegetation Community	Acres	Percent
Agriculture	1,707	0.19
Barren Lands, Non-specific	3,044	0.33
Great Basin Foothill and Lower Montane Riparian Woodland and Shrubland	1,576	0.17
Great Basin Pinyon-Juniper Woodland	67,302	7.38
Great Basin Semi-Desert Chaparral	103	0.01
Great Basin Xeric Mixed Sagebrush Shrubland	126,320	13.85
Inter-Mountain Basins Big Sagebrush Shrubland	357,017	39.16
Inter-Mountain Basins Big Sagebrush Steppe	4,345	0.48
Inter-Mountain Basins Cliff and Canyon	12,146	1.33
Inter-Mountain Basins Greasewood Flat	51,919	5.69
Inter-Mountain Basins Mixed Salt Desert Scrub	31,572	3.46
Inter-Mountain Basins Montane Sagebrush Steppe	119,628	13.12
Inter-Mountain Basins Mountain Mahogany Woodland and Shrubland	1,581	0.17
Inter-Mountain Basins Playa	23,740	2.60
Inter-Mountain Basins Semi-Desert Grassland	23,306	2.56
Inter-Mountain Basins Semi-Desert Shrub Steppe	2,420	0.27
Inter-Mountain Basins Subalpine Limber-Bristlecone Pine Woodland	61	0.01
Inter-Mountain West Aspen-Mixed Conifer Forest and Woodland Complex	5	0.00
Invasive Annual and Biennial Forbland	19,917	2.18
Invasive Annual Grassland	42,737	4.69
Invasive Perennial Grassland	1,855	0.20
North American Arid West Emergent Marsh	13	0.00
Open Water	93	0.01
Recently Burned	12,985	1.42
Recently Mined or Quarried	6,117	0.67
Rocky Mountain Aspen Forest and Woodland	151	0.02

Vegetation Community	Acres	Percent
Rocky Mountain Dry Tundra	3	0.00
Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	48	0.01
Rocky Mountain Subalpine Mesic Meadow	1	0.00
Rocky Mountain Subalpine Mesic Spruce-Fir Forest and Woodland	55	0.01
Total	**911,766**	**100.00**

Other habitat types that are believed to represent important golden eagle foraging habitats in the region include wetlands, natural water sources, and meadows. Wetlands and springs provide a reliable water source for eagle prey and, therefore, allow higher concentrations of eagle prey. There are multiple seeps, springs, stock troughs, and intermittent and ephemeral drainages throughout the study area. Meadow habitats, agricultural alfalfa pivots, and pastures in the study area support large populations of rodents and lagomorphs. These habitats occur at ranches in Crescent Valley and Rocky Pass. Golden eagles feed on carrion especially during winter and even when live prey is available; golden eagles have been known to consume fresh carrion during nesting season (Kochert and Steenhof, 2002).

3.2 NESTING HABITAT

Within the study area, various rock outcrops and mine highwalls were identified as areas with nesting golden eagles. In 2018, there were 28 in-use golden eagle nests within a one-mile radius of approved disturbance and a two-mile radius of approved pit blasting. In 2019, there were 17 in-use golden eagle nests documented in the study area, all of which were either on rock outcrops or highwalls. Within a one-mile radius of approved disturbance and a two-mile radius of approved pit blasting, there were 17 golden eagle nests in use in 2020, 13 in 2021, and seven in-use golden eagle nests observed in 2022. Cliff and rock outcrops exist in the Shoshone Mountains to the west, the Cortez Mountains to the east, and the Toiyabe Mountains to the south, and there are multiple open pits throughout the study area.

3.3 TOPOGRAPHIC FEATURES ATTRACTIVE TO EAGLES

Tops of slopes oriented perpendicular to prevailing winds or near ridge crests of cliff edges are features that are conducive to slope soaring and are attractive features for eagles. Saddles or low points on ridge lines or near riparian corridors may serve as flight paths. Nearby perch and roost sites may also attract eagles. As described above, the area surrounding the Project represents golden eagle potential foraging habitat, though the value of this habitat varies in quality. Cliffs and outcrops occur in the Shoshone Mountains to the west, the Cortez Mountains to the east, and the Toiyabe Mountains to the south. Mountainous areas that include ridgelines and slopes with a variety of aspects, such that winds from multiple directions would create deflection currents, are suitable for soaring. Habitats surrounding the Project include perch and roost sites, and the area is suitable golden eagle nesting and foraging habitat as described above.

4.0 TERRITORIES PROPOSED FOR TAKE

A major component of the risk assessment is to identify Project activities that could result in a take. Those territories proposed for take are those that have been identified within the Plan boundary and are in the USFWS's two-mile buffer of blasting activities and/or one-mile buffer for surface disturbance activities.

Within a one-mile radius of approved disturbance and a two-mile radius of approved pit blasting there are a total of 26 previously identified golden eagle nests. The 26 previously identified nests, which are located on natural and man-made features, are thought to represent all or part of 10 breeding territories. Three of these territories have one or more alternate nests outside of a one-mile radius of approved disturbance, and a two-mile radius of approved pit blasting, thus these three territories are not anticipated to be impacted. Two of the territories (one of which also has a nest outside of the one-mile radius of approved disturbance, and two-mile radius of approved pit blasting) are being requested for disturbance take as part of a separate permit application for the Goldrush Mine Project and thus are not proposed for take under this application. One territory consists of a single nest (MT-03) that was not located in 2019, 2020, 2021, or 2022, and no longer appears to be present, thus impacts to this territory are not anticipated. One territory (including nests HDC-01 and HDC-02), occurs within one mile of a RIB and associated infrastructure that experiences low-level light truck activity equivalent to recreational and ranching activities frequently experienced across Nevada. It also has an alternate nest (HDC-01) that is not within the line of site of any surface disturbance, thus impacts to this territory are not anticipated. A viewshed analysis has been conducted using Geographic Information System tools and is presented as **Figures 4** through **15** to illustrate the portions of anthropogenic activity that are within line-of-sight from the golden eagle nests proposed for take.

Accordingly, four territories at the Cortez Mine are considered vulnerable to disturbance take within the permit application. The 10 territories are illustrated in **Table 2** with bold font for territories and their associated nests that are subject to disturbance take.

The potential for disturbance take of up to four golden eagle territories is unavoidable due to the location of the ore bodies that occur adjacent to the nests, as well as the economic factors that contribute to the profitable extraction of the minerals contained therein. NGM is committed to coordinating unavoidable take with the USFWS and completing required mitigation with the goal of achieving a stable or increasing nesting population of golden eagles. Because NGM has applied for a take permit for the proposed take of these breeding territories, these impacts would be fully offset through mitigation, and surface and blasting activities would not be restricted in the one- and two-mile buffers.

Table 2 Nests Within One Mile of Disturbance or Two Miles of Pit Blasting

Territory Nests	Nest ID	Within One Mile of Approved Surface Disturbance	Within Two Miles of Pit Blasting	Included in Goldrush Take Permit Application	Territory with Nest(s) Outside of One-and Two-Mile Radii	Nest Distance Specifics
CC-01, CC-03, CC-04	CC-01	Yes	No	No	No	Nests are within 0.9 mile of each other along the same range front. Closest nest is TR-11, 1.1 miles
	CC-03	Yes	Yes			
	CC-04	Yes	Yes			

Territory Nests	Nest ID	Within One Mile of Approved Surface Disturbance	Within Two Miles of Pit Blasting	Included in Goldrush Take Permit Application	Territory with Nest(s) Outside of One-and Two-Mile Radii	Nest Distance Specifics
						southwest of CC-01.
CM-08, CM-10, CVC-02, CVC-06	CM-08	Yes	No	No	Yes–2 out of 4 nests (CM-10 and CVC-06)	Nests are within 1.3 miles of each other along a similar range front. Closest nest (CM-16) is 2.9 miles to the northeast of CM-10.
	CM-10	No	No			
	CVC-02	Yes	No			
	CVC-06	No	No			
CWC-03, CWC-04, CWC-05, CWC-06, CWC-08	CWC-03	No	No	No	Yes–4 out of 5 nests (CWC-03, CWC-04, CWC-05, CWC-06)	Nests are within 0.5 mile of each other in Cottonwood Canyon. Closest nest is LCC-01, 1.5 miles west of CWC-08.
	CWC-04	No	No			
	CWC-05	No	No			
	CWC-06	No	No			
	CWC-08	Yes	No			
GAP-01, GAP-02, GAP-05, GAP-06, GAP-07	**GAP-01**	**Yes**	**Yes**	**No**	**No**	**Nests GAP-01, GAP-03, and GAP-05 occur in the Gold Acres Pit. Nest GAP-06 occurs in the GAP Pit. Nests are within 1.3 miles of each other. Closest nest (GQM-01) is 4.3 miles northeast of GAP-02.**
	GAP-02	**Yes**	**Yes**			
	GAP-05	**Yes**	**Yes**			
	GAP-06	**Yes**	**Yes**			
	GAP-07	**Yes**	**Yes**			
HDC-01*, HDC-02	HDC-01*	Yes	No	No	No	Nests are within 0.29 mile of each other. Closest nest is LCC-01, 1.2 miles to the south of HDC-01.
	HDC-02	Yes	No			
MC-03, MC-04	**MC-03**	**No**	**Yes**	**No**	**No**	**Nests are within 0.7 mile of each other and occur in the same drainage. Closest nest MC-02 is 1.1 miles east of MC-03.**
	MC-04	**Yes**	**Yes**			
RP-01, RP-02	**RP-01**	**Yes**	**No**	**No**	**No**	**Nests are within 1.2 miles of each other. Closest nest is RM-12, 2.3 miles south of RP-01.**
	RP-02	**Yes**	**No**			
HC-08, MT-01	MT-01	No	Yes	Yes	Yes–1 out of 2 nests (HC-08)	Nests are within 1.2 miles of each other. Closest nest (WC-04) is 1.9 miles east of MT-01.
	HC-08	No	No			
MT-02	MT-02	Yes	Yes	Yes	No	No other nests occur in the same drainage. Closest nest (which is no longer present) was MT-03, 1.5 miles north.

Territory Nests	Nest ID	Within One Mile of Approved Surface Disturbance	Within Two Miles of Pit Blasting	Included in Goldrush Take Permit Application	Territory with Nest(s) Outside of One-and Two-Mile Radii	Nest Distance Specifics
MT-03**	MT-03**	Yes	Yes	No	No	No nest was found in 2019, 2020, and 2022.

Note: **bold fon**t and highlighted gray are subject to disturbance take.
*HDC-01 is approximately 100 feet within the one-mile buffer of the approved RIBs and not within line of sight; therefore, this territory has not been included as proposed for take.
**MT-03 was reported as a golden eagle nest in 2014 but has never been documented as in use by golden eagles. The nest area was in use by a different species (prairie falcon) in 2017 and presence of a nest could not be located in 2019, 2020 or 2022. As such, MT-03 has not been included as a territory proposed for take because it is no longer present.

CC-01, CC-03, CC-04–All three nests within this territory are within one mile of approved surface disturbance, and two of the three nests are within two miles of approved pit blasting.

CM-08, CM-10, CVC-02, CVC-06–Two nests (CM-08 and CVC-02) within this territory are within one mile of approved surface disturbance. Two out of the four nests (MM-10 and CVC-06) within this territory are outside of the one mile of approved surface disturbance. Because there are other golden eagle nests associated with this territory located outside of one mile of surface disturbance and two miles of pit blasting, disturbance take of golden eagles is not anticipated.

CWC-03, CWC-04, CWC-05, CWC-06, CWC-08–This territory consists of five nests, one nest, CWC-08, and is within one mile of approved surface disturbance. Because there are other golden eagle nests associated with this territory located outside of one mile of surface disturbance and two miles of pit blasting, disturbance take of golden eagles is not anticipated.

GAP-01, GAP-02, GAP-05, GAP-06, and GAP-07–All nests within this territory are within the disturbance footprint created by the mine, as well as within one mile of approved disturbance and two miles of approved pit blasting. All five of these nests are located on highwalls created as a result of mining. GAP-01, GAP-02, GAP-05 are within the Gold Acres Pit, and expansion and laybacks have been approved within this pit that would result in the direct removal of these nests. GAP-6 and GAP-07 are within the GAP Pit, which has been approved for complete backfill that would result in the direct removal of these nests. At this time, direct take of these nests is not anticipated, but disturbance take could occur.

HDC-01, HDC-02–This territory consists of two nests, and both are within one mile of approved disturbance. The surface disturbance located within one mile of these nests is associated with RIBs. RIBs are where dewatering water (water pumped to keep a mining area dry in order to work safely) is pumped to in order to infiltrate back into the ground. HDC-02 is approximately 100 feet within the one-mile buffer and in the foothills of the Cortez Mountains, out of line of sight of the RIBs; therefore, disturbance take of golden eagles is not anticipated.

MC-03, MC-04–Within this territory, the two nests are both within two miles of approved pit blasting, and one nest (MC-04) is within one mile of approved surface disturbance. Disturbance take is proposed for this territory.

RP-01, RP-02–This territory consists of two nests, both within one mile of approved surface disturbance. Disturbance take is proposed for this territory.

HC-08, MT-01–Within this territory, one of the two nests (MT-01) is within two miles of approved pit blasting. This territory is included in the Goldrush Take Permit application; therefore, it is not included in the take permit application for Cortez in order to prevent duplicate permitting actions.

MT-02–This territory is thought to contain one nest (MT-02) within both one mile of approved disturbance and two miles of approved pit blasting. This nest is included in the Goldrush Take Permit application; therefore, it is not included in the take permit application for Cortez in order to prevent duplicate permitting actions.

MT-03–This territory is thought to contain one nest (MT-03) within both one mile of approved disturbance and two miles of approved pit blasting. MT-03 was reported as a golden eagle nest in 2014 and has never been documented as in use by golden eagles. The nest area was in use by a different species (prairie falcon) in 2017 and presence of a nest could not be located in 2019, 2020, 2021, or 2022. As such, it is thought that the MT-03 territory is no longer present and disturbance take is not anticipated.

Additional information for the four territories included in the take permit application and subject to potential disturbance take are discussed below.

4.1 CC-01, CC-03, AND CC-04

Three nests, CC-01, CC-03, and CC-04, are located within Copper Canyon on rock outcroppings. Specific details about the nests are discussed below.

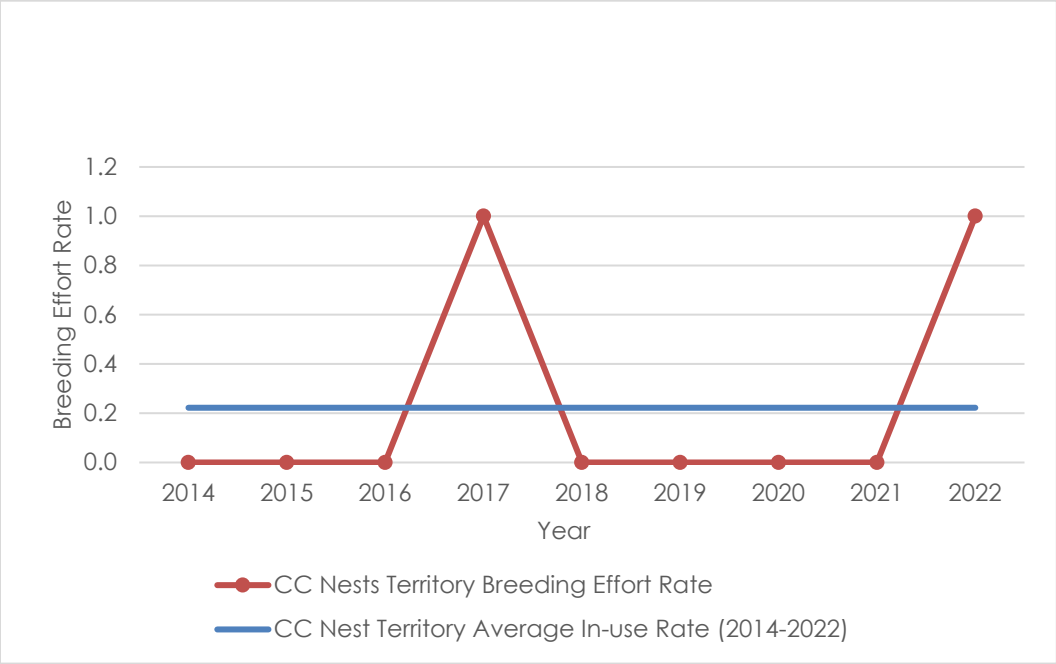
CC-01 was found in 2016 and was identified as a golden eagle nest in 2017. In 2017, it was in use. It was not observed to be in use in 2018, 2019, 2020, and 2021, but was observed to be in use by a golden eagle in 2022. The CC-01 nest has been surveyed six times since it was identified as a golden eagle nest (2017-2022), giving it a breeding effort rate of 0.33. In 2017, one nestling was observed in the nest. However, it is unknown if the nest produced eggs or young in 2022, since only an incubating adult was observed and no eggs or young were observed.

CC-03 was found in 2014 and was identified as a golden eagle nest in 2018. This nest has been surveyed five times since it was identified as a golden eagle nest. The CC-03 nest has not been in use over the five years it has been surveyed since being identified as a golden eagle nest (2018-2022), giving it a breeding effort rate of zero.

CC-04 was found in 2014 and was identified as a golden eagle nest in 2015. The nest was in use by another species in 2018, 2019, 2021, and 2022. The nest was not identified as being in use by any species in 2020. The CC-04 nest has not been in use by golden eagles over the eight years it has been surveyed since being identified as a golden eagle nest (2015-2022), giving it a breeding effort rate of zero.

Overall, breeding efforts occurred in the territory in 2017 and 2022, or two times over the last eight years. The seven-year average breeding effort rate is 0.25. **Graph 1** presents the CC nests territory breeding effort rate per year.

Graph 1 CC Nest Territory Breeding Effort



4.2 GAP-01, GAP-02, GAP-05, GAP-06, AND GAP-07

Five nest sites, GAP-01, GAP-02, GAP-05, GAP-06, and GAP-07 are thought to make up this breeding territory. Three nests (GAP-01, GAP-03, and GAP-05) are located within the Gold Acres Pit and two nests (GAP-06 and GAP-07) are located within the GAP Pit. All five nests are located on highwalls constructed from previous mining activities. Specific details about each nest are discussed below.

GAP-01 was found in 2013 and was identified as a golden eagle nest in 2014. It has never been observed as in use during the ten years it has been surveyed (2013-2022) resulting in a breeding effort rate of zero. In 2018 and 2019, the nest was covered in soil and sloughing off the highwall.

GAP-02 was found in 2013 and was identified as a golden eagle nest in 2014. In 2013, the nest was in use by an unknown species. In 2014, the nest was in use with an adult golden eagle sitting on the nest. In 2015, the nest was in use by common raven. From 2016 through 2020, the nest was not in use. The GAP-02 nest was in use by golden eagle in 2014 and has been surveyed ten times (2013-2022), giving it a breeding effort rate of 0.1. The number of eggs produced in 2014, and whether the nest produced young, is unknown since only an incubating adult was observed and no eggs or young were observed. The nest is located at the entrance of an adit exposed in the highwall, making it difficult to observe the nest during aerial and ground surveys.

GAP-05 was found in 2018 and was identified as a golden eagle nest. The nest was in use in 2018, 2019, and 2020. The nest has been surveyed five times (2018-2022) and has been in use three of the five years giving it breeding effort rate of 0.6. One egg was observed on the nest in 2018 that did not produce young or fledge, giving it a success rate of zero percent. No young are thought to have fledged from this nest in

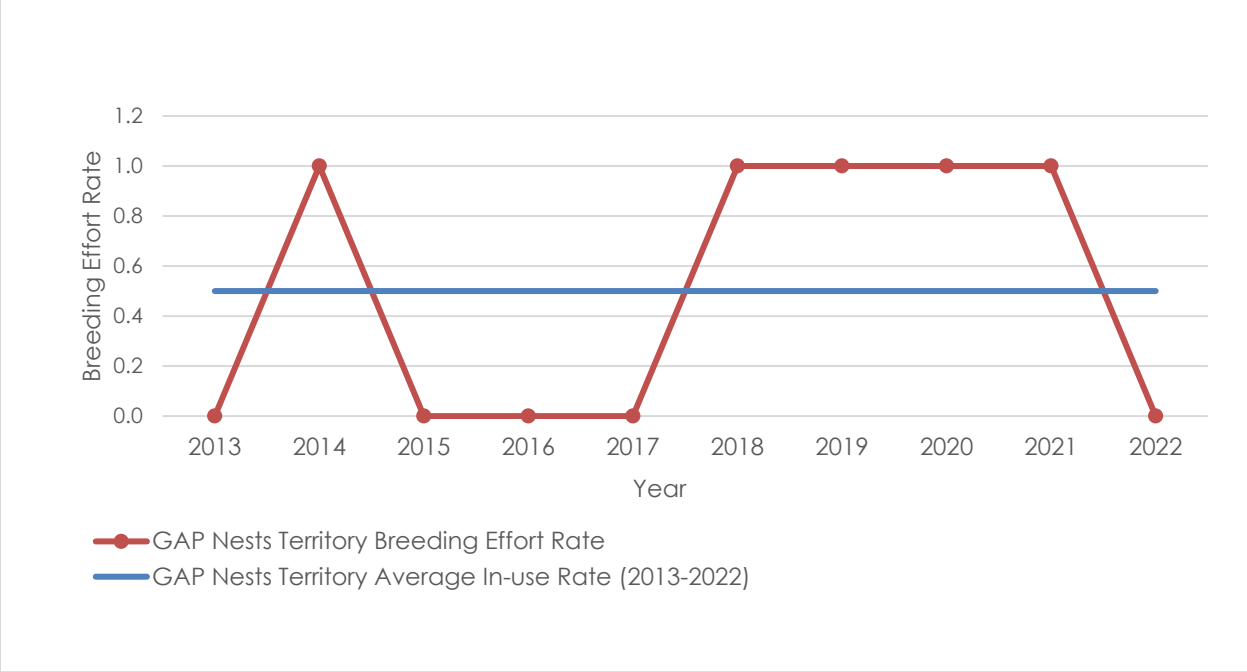
2019, specific nest data is unavailable for 2020, and in 2021 and 2022 was not in use by golden eagles. The nest is located at the base of a highwall lift, and vegetation is growing at the base of the nest.

GAP-06 was found in 2021 and was identified as an abandoned golden eagle nest. The nest is located 300 feet below the top edge of the pit. The GAP-06 nest was not in use in 2021 or 2022 giving it a breeding effort rate of zero.

GAP-07 was found in 2021 and was identified as a golden eagle nest. The nest was in use with an adult observed incubating on the nest. In May 2021, an adult golden eagle was observed with two chicks in the nest. In 2022, the nest was observed to not be in use. The nest is located in a rock outcropping on the west side of the authorized disturbance. The breeding effort rate of GAP-07 is 0.50.

Graph 2 presents the GAP nests breeding effort rate per year.

Graph 2 GAP Nest Territory Breeding Effort



4.3 MC-03 AND MC-04

Two nest sites, MC-03 and MC-04 are located within the Cortez Mountains on rock outcroppings. Specific details about the nests are discussed below.

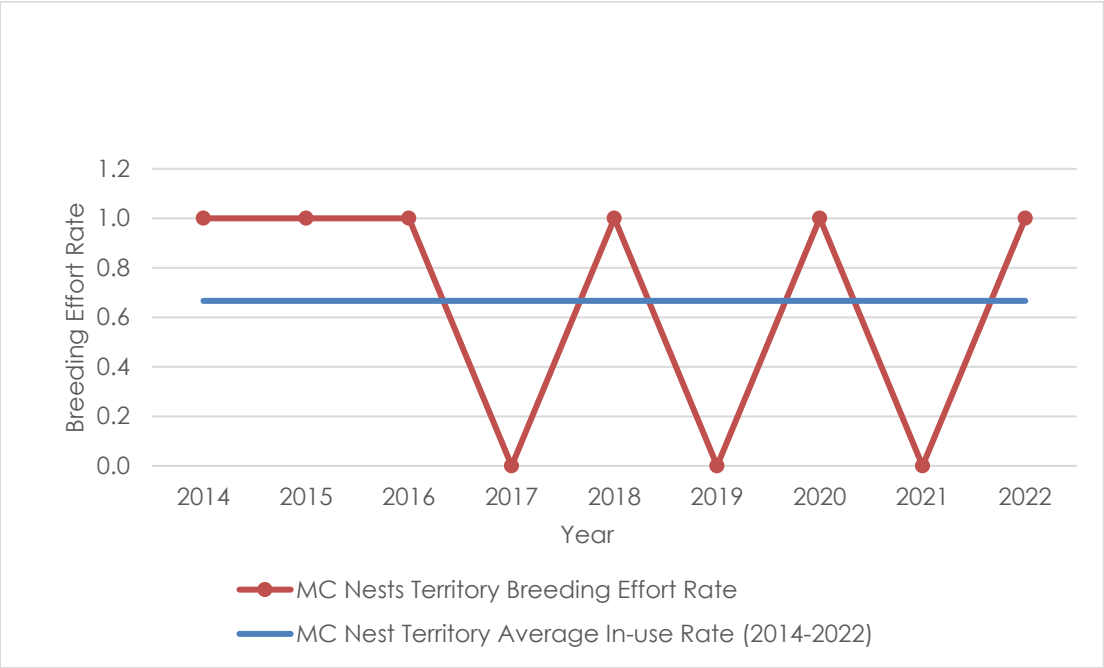
MC-03 was found in 2014 and was identified as a golden eagle nest in 2016. In 2016 it was in use. The nest has not been surveyed as in use since. The nest has been surveyed nine times (2014-2022) and in use once, giving it a breeding effort rate of 0.11.

MC-04 was found in 2014 and was in use by golden eagles. The nest was again in use in 2015, 2018, 2020, and 2022. In 2018, one egg was observed in the nest. In 2020, a downy young was observed in the nest.

The nest has been surveyed nine times (2014-2022) and in use five times, giving it a breeding effort rate of 0.56.

Graph 3 presents the McClusky Creek nests breeding effort rate per year.

Graph 3 MC Nest Territory Breeding Effort



4.4 RP-01 AND RP-02

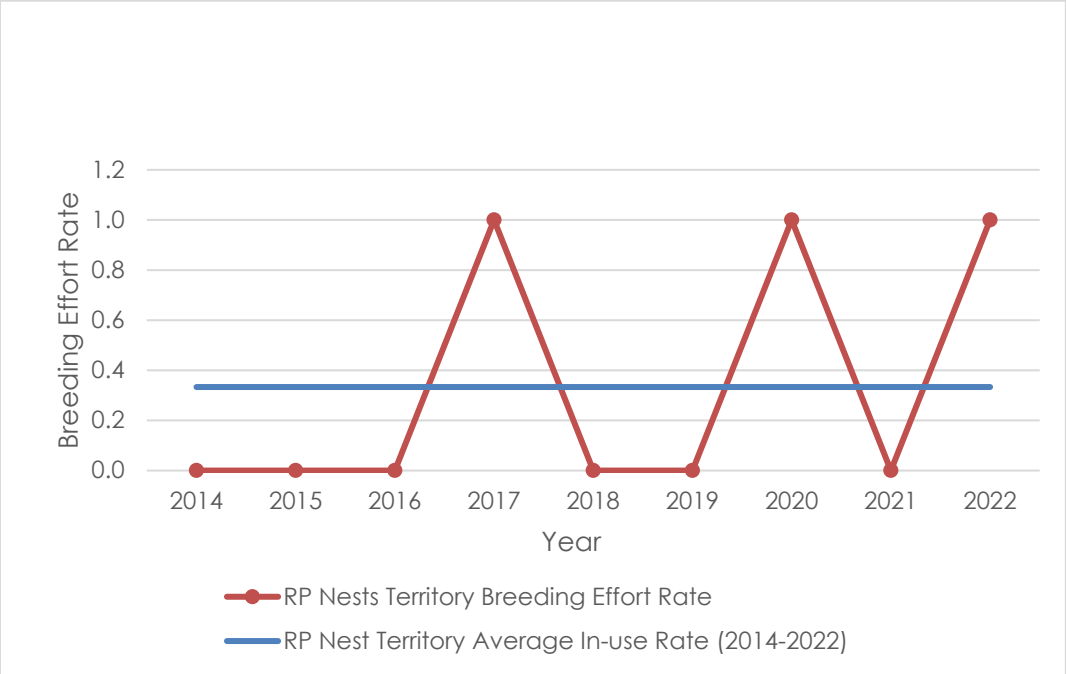
Two nest sites, RP-01 and RP-02 are located within Rocky Pass on rock outcroppings. Specific details about the nests are discussed below.

RP-01 was found in 2017 and was identified as a golden eagle nest in 2018. In 2018, it was in use and the nest contained two eggs and eventually one nestling. In 2020, the nest was in use and two nestlings were observed. The RP-01 nest was in use in 2018 and 2020 and has been surveyed six times (2017-2022), giving it a breeding effort rate of 33 percent. Of the two breeding attempts in 2018 and 2020, both years resulted in breeding successes, in which one nestling fledged in 2018 and two nestlings fledged in 2020, giving the nest a 100 percent success rate.

RP-02 was found in 2014. The nest was in use by other species in 2015 and 2017 through 2019. The RP- 02 nest has not been in use by golden eagles over the nine years it has been surveyed (2014-2022), giving it a breeding effort rate of zero.

Overall, the territory has been in use in 2018 and 2020, or twice over the last nine years (22 percent breeding effort rate). **Graph 4** presents the Rocky Pass nests breeding effort rate per year.

Graph 4 RP Nest Territory Breeding Effort



5.0 RISK ASSESSMENT

This section presents a discussion of the assessment of the level of risk from the Project to the golden eagle breeding population in the vicinity. Potential disturbance-creating activities at Cortez include mining, processing, exploration, administrative, and support processes; authorized mining activities are listed in **Section 2.0**. The greatest risk-factor to golden eagles associated with an active mining operation will likely occur during the breeding season, including the courtship, incubation, nestling, fledging, and post-fledgling stages. This is especially true when golden eagle breeding territories are located within the Plan boundary or nearby, as is the case for the territories proposed for take which are described in **Section 4.0**.

A summary of proposed take to golden eagles anticipated from activities associated with Cortez is provided in **Table 3**. Discussion of the risk that could be posed by the mine to golden eagles is described below.

Table 3 Summary of Impacts to Eagles

Eagle Impact	Cortez Impacts
Direct take (morality)	None anticipated, low risk: Section 5.2, 5.3, and 5.4
Indirect take (loss of productivity from disturbance)	Section 4.0: Four golden eagle breeding pairs' territories; take permit submitted to USFWS.
Habitat loss	Section 5.1
Territory loss (number of territories)	Section 4.0: Four golden eagle breeding pairs' territories; take permit submitted to USFWS.
Nest removal (number of nests for each territory involved)	None.

5.1 HABITAT-RELATED RISKS

Cortez is approved for surface disturbance of up to 20,498 acres. Reduction of habitat as a result of direct mining disturbance has the potential to impact golden eagles. Specifically, impacts to functional shrublands that support jackrabbit populations could influence prey availability to golden eagles, especially during the breeding season when adults are foraging routinely to provide adequate food for their young. Loss of suitable habitat within golden eagle home ranges may result in reduced prey base and foraging opportunities such that territory persistence and reproductive output may be negatively impacted.

5.2 UTILITIES-RELATED RISKS

Utility structures pose a risk to perching birds, including raptors such as golden eagles, and may cause mortality through accidental collisions and electrocutions. Larger birds that inhabit open habitat appear to be at greater risk for electrocution due to the lack of natural perches and nesting sites (APLIC & USFWS, 2005). Electrocution occurs when a bird completes an electric circuit by simultaneously touching two energized parts, or an energized part and a grounded part, of the electrical structure. Inadequate conductor and/or phase spacing may allow birds to bridge electrical parts, which results in electrocution. Birds of all sizes are at-risk, especially on utility hardware such as transformers, which have many energized parts in close proximity to one another (APLIC & USFWS, 2005). Risk for avian electrocution on distribution lines increases when the distance between conductors is less than the wingspan or height of a landing or

perching bird, or hardware or equipment cases are grounded and in close proximity to energized conductors, parts or jumper wires (APLIC & USFWS, 2005).

In the 2008 Environmental Impact Statement for the Cortez Hills Expansion Project, Cortez committed to constructing any new transmission lines in accordance with applicable regulations to minimize raptor electrocution and collision potential. To minimize the collision potential for foraging raptors and other birds, standard safe designs as outlined in Reducing Avian Collisions with Power Lines (APLIC, 2012) are incorporated, as applicable. To minimize the potential for electrocution of raptor species attempting to perch on the lines in areas of identified avian concern, standard safe designs as outlined in Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006 (APLIC, 2006) and Avian Protection Plan Guidelines (APLIC and USFWS, 2005) are also incorporated, as applicable. Because all transmission lines installed since 2008 have been constructed per APLIC guidelines, potential risk to golden eagles from electrocution at the mine is low.

5.3 PROCESS-RELATED RISKS

Mining processes and facilities that use cyanide and other chemicals pose a risk to wildlife species, including golden eagles. In conjunction with Nevada Department of Wildlife's (NDOW's) Industrial Artificial Pond Permit and International Cyanide Management Code requirements, all areas that contain cyanide must be controlled to reduce or eliminate the potential for wildlife mortality and meet stringent human health and safety standards. At varying concentrations, cyanide can poison wildlife through accidental ingestion of water sources containing cyanide (i.e., process ponds) and may cause mortality. Cortez uses cyanide in material processing, on head leach pads, and at tailings storage facilities.

In heap leach operations, sodium cyanide solution is pumped onto lined heap leach pads (HLP) and dispersed through drip irrigation or water sprays. The solution migrates through the HLP, where cyanide extracts gold from the ore. The pregnant solution (gold-bearing) is collected in lined trenches and collection pipes and flows into a tank or pregnant pond. Once gold is removed from the pregnant solution, the cyanide solution is pumped into the intermediate pond, cyanide concentrations are increased, and the cyanide solution is pumped back to the HLP to repeat the cycle. On occasion, solution application results in ponding on the top or sides of HLPs and presents an opportunity for wildlife to encounter cyanide solution. NGM operators are cognizant of the risk this situation presents and solution application is managed to minimize and eliminate ponding. Wildlife may also encounter cyanide in the collection and distribution ponds. Cyanide concentrations are usually lowest in the pregnant pond and highest in the barren or intermediate ponds. In some cases, the cyanide is injected directly into the feed pipes and cyanide concentrations are low in all the ponds. Wildlife exclusion measures such as bird balls, netting, and fencing are used in conjunction with heap leach ponds to prevent wildlife from accessing ponds that contain cyanide solution.

To reduce risk of wildlife exposure to chemicals, including cyanide, Cortez currently has three conservation measures in place. Note that these measures are required to be implemented per Project approvals by the BLM.

- Netting, pond covers, or floating "bird balls," as appropriate, will be installed over ditches and ponds that contain leach solutions, to minimize potential impacts to avian and terrestrial wildlife species.
- In addition, the heaps will be scarified to minimize ponding and pooling of process solutions. To minimize potential impacts to wildlife species, the top of leach pads will be monitored daily for any

substantial pooling of cyanide solutions, and wildlife mortalities will be reported in accordance with the NDOW Industrial Artificial Pond Permit.

- WAD cyanide concentrations in the tailings impoundments will be maintained at non-lethal levels. As added protection, the existing cyanide detoxification system (which uses in-line addition of ferrous sulfate to the tailings solution) will be used if it should become necessary to lower the cyanide levels in the tailings discharge to the tailings facility.

Because of the conservation measures in place, the potential risk to golden eagle from process-related risks is low.

5.4 VEHICLE COLLISION-RELATED RISKS

Mobile equipment (i.e., vehicles) used in operations at the mine or traveling to or from the mine could strike and injure or kill wildlife. Road-killed wildlife may attract scavenging eagles, which in turn could be injured or killed by vehicle collision. Due to the speed limits placed on equipment operating at the mine, the potential for eagle mortality due to vehicle collision at Cortez is low. Additional traffic controls can be implemented by NGM as necessary through direct communication regarding road hazards. Additionally, no eagle mortalities due to vehicle collision have been reported at Cortez.

6.0 AVOIDANCE AND MINIMIZATION MEASURES

Cortez currently employs conservation measures associated with the approved Plan. Conservation measures that may also benefit golden eagles that are implemented at Cortez are listed below in **Table 4**.

Table 4 Authorized Avoidance and Minimization Measures

Number	Conservation Measure	Source(s)
CM-1	Netting, pond covers, or floating "bird balls," as appropriate, will be installed over ditches and ponds that contain leach solutions, to minimize potential impacts to avian and terrestrial wildlife species. In addition, the heaps will be scarified to minimize ponding and pooling of process solutions.	BLM, 2008a; BLM, 2015; BLM, 2019
CM-2	WAD (weak acid dissociable) cyanide concentrations in the tailings impoundments will be maintained at non-lethal levels. As added protection, the existing cyanide detoxification system (which uses in-line addition of ferrous sulfate to the tailings solution) will be used if it should become necessary to lower the cyanide levels in the tailings discharge to the tailings facility.	BLM, 2008a; BLM, 2015; BLM 2019
CM-3	To minimize potential impacts to wildlife species, the top of leach pads will be monitored daily for any substantial pooling of cyanide solutions, and wildlife mortalities will be reported in accordance with the NDOW Industrial Artificial Pond Permit.	BLM, 2015; BLM, 2019
CM-4	In the event that initiation of the Project should occur during the raptor nesting season (March 1 through July 31 and April 1 through July 31 for the burrowing owl), a raptor survey will be conducted. Project-related disturbance for a specific location will be conducted within 14 days of the survey, or another survey will be conducted. If active nests are located, or if other evidence of nesting (i.e., mated pairs, territorial defense, carrying nesting material, transporting food) is observed, a protective buffer (the size depending on the habitat requirements of the species and location of the nest) will be established around the nests following consultation with the BLM resource specialist. No construction will occur within the avoidance buffer until the birds are no longer actively breeding or rearing young, or until the young have fledged.	BLM, 2008a; updated in BLM, 2015; BLM, 2019
CM-5	To protect nesting birds, removal of migratory bird habitat on currently undisturbed lands in the Cortez Operations Area will be avoided to the extent possible between March 1 and July 31. Should removal of habitat be required during this period, NGM will coordinate with the BLM and NDOW to conduct migratory bird nesting surveys and implement appropriate mitigation, such as buffer zones around occupied nests, as needed. Project-related disturbance for a specific location will be conducted within 14 days of the survey, or another survey will be conducted.	BLM, 2008a; updated in BLM, 2015; BLM, 2019
CM-6	Raptor surveys will be conducted annually during the raptor breeding season (March 1 through July 31) utilizing the methods outlined in Pagel et al. (2010). The survey area will include the Cortez Operations Area plus a 10-mile buffer. Two rotor wing (helicopter) aerial surveys and subsequent ground surveys of occupied nests will be conducted. The annual survey report will be provided to the BLM.	BLM, 2015; BLM, 2019
CM-7	Transmission lines will be designed and constructed in accordance with applicable regulations to minimize raptor electrocution and collision potential. To minimize the collision potential for foraging raptors and other birds, standard safe designs as outlined in Reducing Avian Collisions with Power Lines (APLIC, 2012) will be incorporated, as applicable. To minimize the potential for electrocution of raptor species attempting to perch on the lines in areas of identified avian concern, standard safe designs as outlined in Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006 (APLIC, 2006) and Avian Protection Plan Guidelines (APLIC and USFWS, 2005) will be incorporated, as applicable.	BLM, 2008a; Updated in BLM, 2015; BLM, 2019

Number	Conservation Measure	Source(s)
CM-8	To minimize potential mine-related effects to perennial surface waters, the site-specific contingency mitigation measures developed for identified perennial waters within the currently approved operations' modeled groundwater drawdown area will be implemented if monitoring data indicate that an observed reduction in flow is attributable to mine-induced groundwater drawdown. If needed, one or more of the identified mitigation methods will be implemented per the site-specific mitigation plans presented in Table 3.2-1 of the Cortez Hills Expansion Project Final Supplemental Environmental Impact Statement (BLM, 2011a). Site-specific contingency mitigation measures identified in NGM's proposed Contingency Mitigation Plans for Surface Waters (BCI and Stantec, 2018) will be implemented to minimize potential mine-related effects to perennial waters within, and within one mile of, the modeled maximum extent of the Proposed Action groundwater drawdown area not covered by the 2011 mitigation plan.	BLM 2011; BLM 2011a; Updated in BLM, 2019
CM-9	NGM will voluntarily coordinate with the BLM to develop new wetland/riparian areas and/or enhance existing wetland/riparian areas at off-site locations to address the direct loss of wetland/riparian vegetation. The loss of wetland/riparian vegetation will be replaced at a 2:1 ratio (i.e., for every acre of wetland/riparian vegetation removed or disturbed by mine development or groundwater drawdown, two acres of wetland/riparian vegetation will be created and/or enhanced). Where appropriate, replacement of wetland/riparian vegetation will be developed in conjunction with the mitigation measures for potentially affected perennial waters. NGM in coordination with a BLM botanist will identify appropriate wetland/riparian species to be seeded or transplanted in these locations. Alternately, local existing areas of wetland/riparian vegetation unaffected by mine-related groundwater drawdown will be identified in coordination with the BLM for enhancement. Enhancement methods could include, but will not be limited to, the use of BLM-approved fencing to minimize livestock impacts, implementation of weed controls, and/or supplemental planting or seeding, as appropriate.	BLM, 2008b; Updated in BLM, 2019
CM-10	NGM will continue its mandatory employee education program for all personnel to minimize wildlife/vehicle-related impacts during operation.	BLM, 2008b

7.0 MONITORING AND ADAPTIVE MANAGEMENT

Golden eagle surveys have been conducted in the vicinity of the Plan boundary since 2013. Recent inventory and monitoring efforts follow Pagel et al. (2010), which is the standard golden eagle survey protocol accepted by the USFWS. Surveys focus on completing a thorough inventory of nests within a recommended 10-mile radius surrounding the Project Area and capturing information regarding nest occupancy, productivity, and success. At least two aerial surveys have been conducted annually during the golden eagle breeding season, with the surveys conducted at least one month apart.

In addition, Cortez will implement the below Environmental Protection Measures:

EPM-1–Territory occupancy ground surveys will be conducted within the four golden eagle territories in the Cortez Mine that are part of the disturbance take permit in January to mid-March (i.e., the preferred survey window) to assess golden eagle territory occupancy and document in use nests as appropriate. Every attempt will be made to conduct the ground surveys mid-to-late February. NGM will coordinate with the USFWS prior to the ground surveys occurring to communicate existing conditions on the ground that may prohibit ground surveys to some nest sites (e.g., heavy snow, access concerns, golden eagle disturbance, etc.). This communication prior to ground surveys being conducted will allow for flexibility in the monitoring requirements based on conditions at the site during the preferred survey window. NGM would coordinate with the USFWS and the BLM to discuss monitoring as the season progresses and assess if monitoring requirements need to be modified based on site conditions, access concerns, or potential disturbance to nesting golden eagles.

Nests MC-03 and MC-04 are not accessible for early season ground surveys based on road conditions and limited observation options, without resulting in additional ground disturbance. Early season ground surveys will not be conducted for the territory with nests MC-03 and MC-04. These nests will be monitored via an early season (January to mid-March) aerial survey following Pagel et al. (2010) protocol. High resolution photographs from the early season aerial flight will be used to assess evidence of early season occupancy at nests (e.g., new nest material, reformed/developed nest bowl, etc.). Aerial surveys later in the breeding season will clarify occupancy and breeding status (see Cortez Mine Conservation Measure 6 (CM-6)) and complying with Pagel et al. (2010) protocol. Every attempt will be made to conduct the first aerial survey by mid-March and the follow up aerial survey in mid-April.

An early season (January to mid-March) ground survey will be conducted for nests GAP-01, GAP- 02, and GAP-05, if onsite conditions and access are conducive to ground monitoring. NGM will coordinate with the USFWS and the BLM regarding the site conditions prior to conducting the ground surveys to determine if ground monitoring is feasible in the January to mid-March preferred survey window months. If a ground survey is not possible during January or February due to site conditions, access concerns, or potential disturbance to golden eagles, video monitoring may be used in lieu of the ground survey, in coordination with the BLM and the USFWS. Aerial surveys later in the breeding season will be conducted following Cortez Mine Conservation Measure 6 (CM- 6) and complying with Pagel et al. (2010) protocol. Every attempt will be made to conduct the first survey by mid-March and the follow up aerial survey in mid-April.

An early season (January to mid-March) ground survey will be conducted for nests GAP-06 and GAP-07 using similar observation points as previous years. NGM will coordinate with the USFWS and the BLM regarding site conditions and access to these observation points prior to the ground survey occurring. If onsite conditions make a ground survey not feasible during the preferred survey window, NGM will coordinate with the USFWS and the BLM to modify monitoring requirements based on site conditions, access concerns, or potential disturbance to nesting golden eagles. Aerial surveys later in the breeding season will be conducted following Cortez Mine Conservation Measure 6 (CM-6) and complying with Pagel et al (2010) protocol. Every attempt will be made to conduct the first survey by mid-March and the follow up aerial survey in mid-April.

An early season (January to mid-March) ground survey will be conducted for nests RP-01 and RP- 02. If onsite conditions make a ground survey not feasible during the ideal survey window, NGM will coordinate with the USFWS and the BLM to modify monitoring requirements based on site conditions, access concerns, or potential disturbance to nesting golden eagles. Aerial surveys later in the breeding season will be conducted following Cortez Mine Conservation Measure 6 (CM-6) and complying with Pagel et al. (2010) protocol. Every attempt will be made to conduct the first survey by mid-March and the follow up aerial survey in mid-April.

An early season (January to mid-March) ground survey will be conducted for nests CC-01, CC-03, and CC-04. If onsite conditions make a ground survey not feasible during the ideal survey window, NGM will coordinate with the USFWS and the BLM to modify monitoring requirements based on site conditions, access concerns, or potential disturbance to nesting golden eagles. Aerial surveys later in the breeding season will be conducted following Cortez Mine Conservation Measure 6 (CM- 6) and complying with Pagel et al. (2010) protocol. Every attempt will be made to conduct the first survey by mid-March and the follow up aerial survey in mid-April.

Ground survey observations will focus in the areas around nests, nest cliffs, and other suitable nesting habitat. Specific observation criteria used for the ground survey for establishing golden eagle territory occupancy include:

- An adult eagle within 500 meters of a nest within the territory, when the bird is clearly in view of the nest, and when the eagle's presence is clearly not a rapid pass-over of the nest.
- Two adults, or an adult and a sub-adult bird paired within the territory.
- Reproductive or territorial behavior within the territory:
    - Courtship behavior, undulating flight, copulation
    - Territorial defense
    - Nest building behaviors (stick carrying, nest maintenance).

A follow up aerial or ground survey will be conducted for those nests that were determined to contain breeding attempts during the above discussed surveys. Success at golden eagle nests is determined by nestlings greater than 51 days old, which is primarily late-May and peaking mid-June.

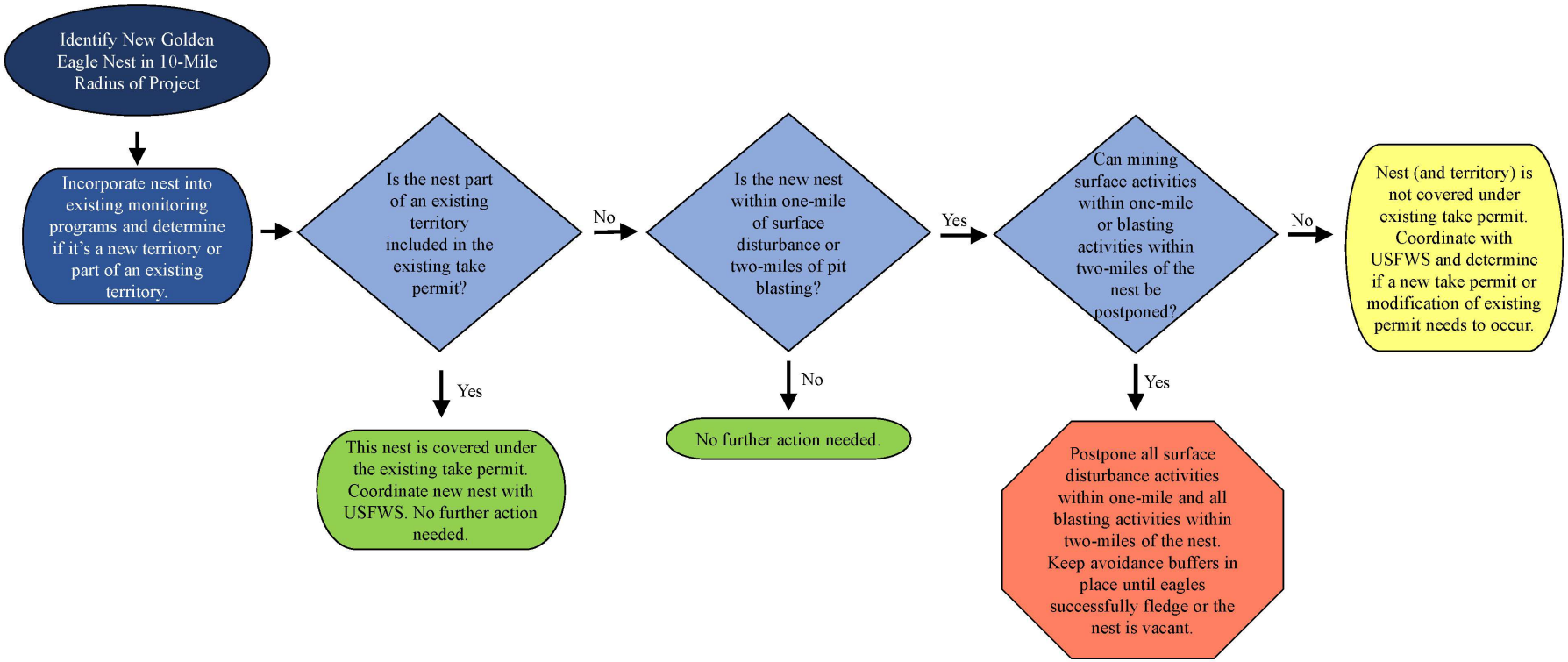
EPM-2 - If new nests are identified within the territories that are part of the disturbance take permit during the 30-year term of the take permit, NGM will coordinate with the USFWS regarding the new

nests, and these new nests will be monitored as discussed above, concurrently with the other nests within the territories that are part of the disturbance take permit. After ground surveys are completed, Cortez Mine Conservation Measure 6 (CM-6) would apply to nests within a territory that have a disturbance take permit, and in compliance with Pagel et al. (2010) protocol. If new nests are identified within one mile of disturbance, or two miles of blasting, that are outside of a territory with a disturbance take permit, NGM will inform and coordinate with the USFWS and the BLM regarding the new nest sites that are outside the territories with a disturbance take permit. Cortez Mine Conservation Measure 4 (CM-4) and Cortez Mine Conservation Measure 6 (CM-6) would apply for new nests identified outside of a territory with a disturbance take permit, in coordination with USFWS and the BLM.

Unless a disturbance take permit is in place, golden eagle nests with concern for potential disturbance should be considered not in use for a given breeding season if they are confirmed not in use on April 15 or later. Prior to April 15 they are considered potentially in use unless an alternate nest within the same territory is already confirmed in use, and spatial disturbance buffers (one mile for surface disturbance or two-mile for blasting) would be adhered to until nests are confirmed not in use, after July 31 if nests are in use, or four weeks after nestlings fledge if monitoring confirms approximate fledging date. For adaptive management purposes, verification of implemented avoidance and minimization measures as provided in Section 6.0 is necessary. Cortez currently has a monitoring and reporting system for incidents related to wildlife fatality as part of the wildlife management plan and Industrial Artificial Pond Permits, as required by NDOW. Any incident that results in wildlife fatality or death, including golden eagles, must be reported.

Monitoring the Project Area golden eagle population for additional golden eagle nests will occur concurrently with existing and future required survey efforts as part of potential authorized construction or disturbance actions. During the life of mine, Cortez recognizes the possibility for new construction of golden eagle nests within the Plan boundary. If a previously undocumented nest is identified, Cortez will implement the decision tree as shown below to determine how to proceed. This decision tree is applicable to scenarios where a new nest is encountered and has been created to guide Cortez on how to appropriately deal with these new nests and to be transparent in the decision-making process. The decision tree shows the process for monitoring, avoiding, and coordinating activities in proximity to any new golden eagle nest. Cortez would not take a golden eagle nest, either by physically removing a nest or indirectly, without legally obtaining golden eagle take permit from the USFWS.

Eagle Nest Decision Flowchart



8.0 COMPENSATORY MITIGATION

Compensatory mitigation to fully offset authorized take would be conducted within the Pacific Flyway Eagle Management Unit (EMU). The Applicant would provide the compensatory mitigation at the required 1.2 to 1 ratio by retrofitting electric utility poles, as discussed in the 2016 USFWS Programmatic Environmental Impact Statement (USFWS 2016). The intent would be to minimize the potential for eagle electrocutions and ensure that the effects of eagle incidental take are offset at the population level. NGM will utilize a USFWS-approved mitigation program, such as, but not limited to, the Bald Eagle and Golden Eagle Electrocution Prevention In-Lieu Fee Program (In-Lieu Fee Program), for electric pole retrofits to offset the potential loss of productivity in four golden eagle territories resulting from approved Project activities.

Potential disturbance from authorized activities within proximity to the four golden eagle territories is unavoidable due to the location of the ore bodies that occur within proximity to nests within each territory, and the economic factors that contribute to the profitable extraction of the minerals contained therein. Mitigation will not be required for nesting seasons in which there is no blasting within two miles or mining-related activities within one mile of the nests in the territories covered by a take permit; or if monitoring shows there was a successful nesting attempt (i.e., fledged one or more young) in the territories covered by the permit. Priority will be requested for retrofitting opportunities within Nevada and/or the Great Basin. However, if opportunities are not available in these areas, mitigation credits will be used to retrofit poles anywhere within the EMU, at the discretion of the In-Lieu Fee Program entity administering the mitigation. Once NGM has purchased the credits, the In-Lieu Fee Program entity administering the mitigation will be responsible for coordinating and implementing the retrofits; however, NGM will be responsible for purchasing additional credits if there are discrepancies between the initial purchased amount and actual costs incurred for the retrofits.

Long-term eagle incidental disturbance take permits require the Service to conduct five-year reviews. Based on the results of monitoring described in **Section 2.3.1** for the Projects, during the five-year review process, the Service would evaluate how much take may have occurred for each known breeding territory described in **Tables 1-1** and **1-2,** or in previously unconsidered territories within the appropriate disturbance buffers dependent on future monitoring results. For example, should nest disturbance occur within one mile of a golden eagle nest or two miles of blasting during the courtship phase, or egg-laying period of the breeding season (December 15–April 15), the Service would assume NGM's activities prevented eagles from breeding and a take incident occurred. If NGM's data validate no disturbance occurred within one or two miles of a breeding pair's nest site until after April 15 in a given year, and monitoring confirms nests are not in use, NGM could proceed with its activities and the Service would determine no take occurred. The Service would consider use of alternate nests within a given territory when evaluating whether take occurred as a result of NGM's mine-related activities. After assessing how many take incidents occurred during the first five years, the Service would then evaluate how much compensatory mitigation might be either credited or owed for each successive five-year period remaining within the permit duration for each Project.

The permit for the Cortez Mine would require mitigation for the annual disturbance take of four breeding territories for up to 30 years at the Cortez Mine. The amount of compensatory mitigation required for the lost productivity has been determined through the Service's Golden Eagle Resource Equivalency Analysis (REA) (USFWS 2018). NGM must commit to mitigate the first five years of take at the time of permit issuance. At each five-year check in, data collected during the previous five years will be used to determine if further compensatory mitigation will be required in the following five years. Unless monitoring indicates

reduced impacts to breeding golden eagles, for the first five years NGM would contribute compensatory mitigation in an amount equal to the power pole retrofit of one of the following, or a combination of both:

- 444.41 poles (avoided loss from retrofits maintained and effective for 10 years); or
- 193.41 poles (avoided loss from retrofits maintained and effective for 30 years).

The eagle conservation measures presented within this ECP include a comprehensive description of measures NGM is implementing to avoid and minimize impacts from Project design, operation, and construction on eagles. Mitigation, in the form of funds to be used for power pole retrofits, will offset impacts and contribute to the preservation of golden eagles associated with the loss of productivity from disturbance for four territories.

Within 30 days from the issuance of the take permit, NGM will make a payment into the same USFWS-specified account for the total retrofit obligation to offset disturbance take associated with an average of 2.36 takes per year for the first five years. The monetary value of each pole will be determined through coordination with USFWS prior to NGM depositing the funds into the specified account. The number of poles for the first five years is 194 (the value of 193.41 from the USFWS REA was rounded up), which assumes retrofitting for 30 years of avoided loss and is based on the ratio of 1.2 to 1.

Upon completion of the USFWS five-year permit review, a determination of whether disturbance take occurred will take place. Using the results of this determination, disturbance take funds that have been paid to date will be either rolled over (either in part or the full sum) or additional payment will be made to the same account, based on actual disturbance take as determined through close coordination with the USFWS and based on observed nest occupancy and productivity, as described in **Section 8.0.** Applicable mitigation will be paid every five years, as applicable, throughout the 30-year permit periods of the Projects.

9.0 REFERENCES

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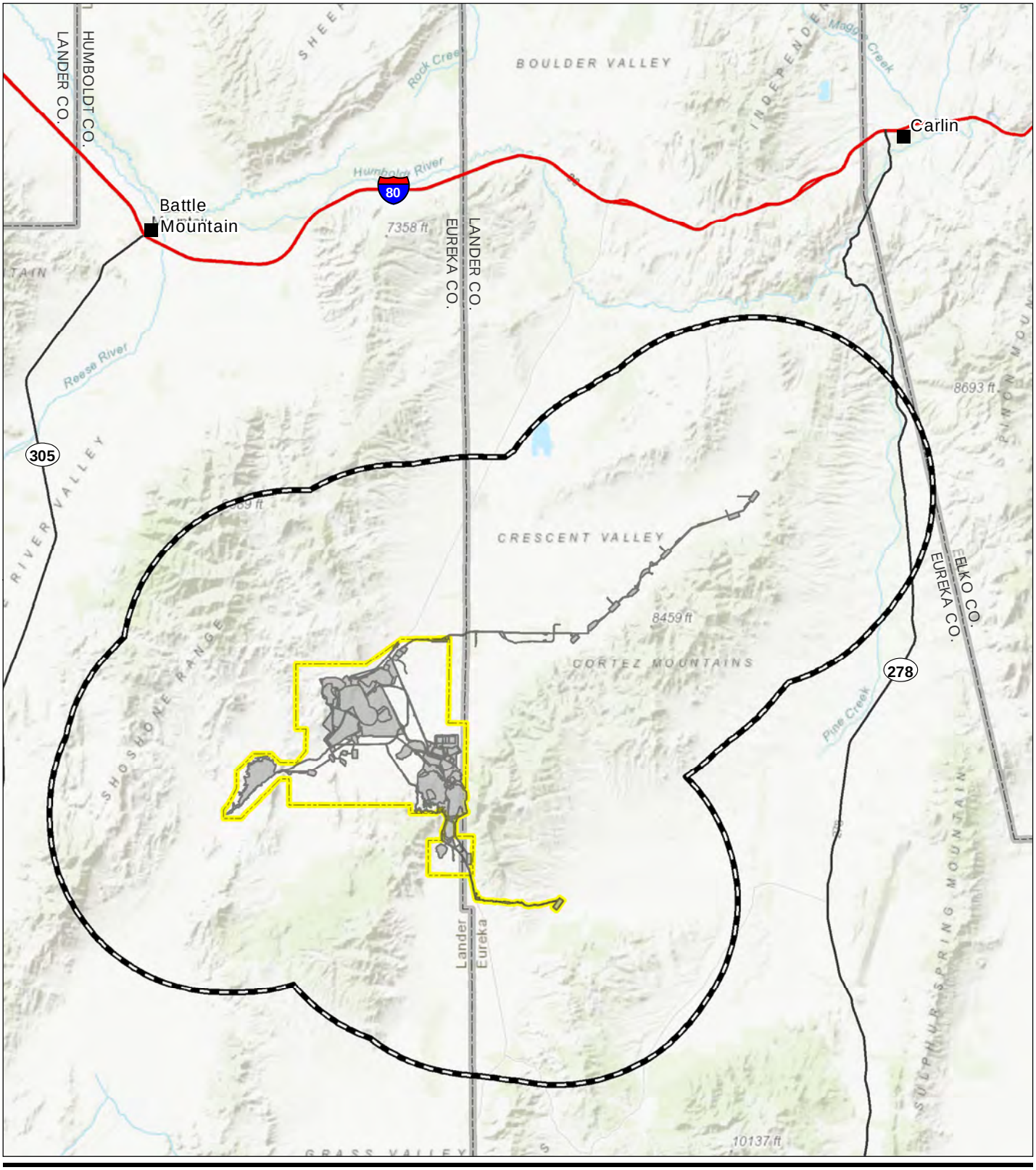
FIGURES



Legend

- Cortez Mine Plan of Operations (Plan) Boundary
- Existing and Approved Facilities
- 10-mile Radius of Plan Boundary (Study Area)

N

0 4 8 Miles

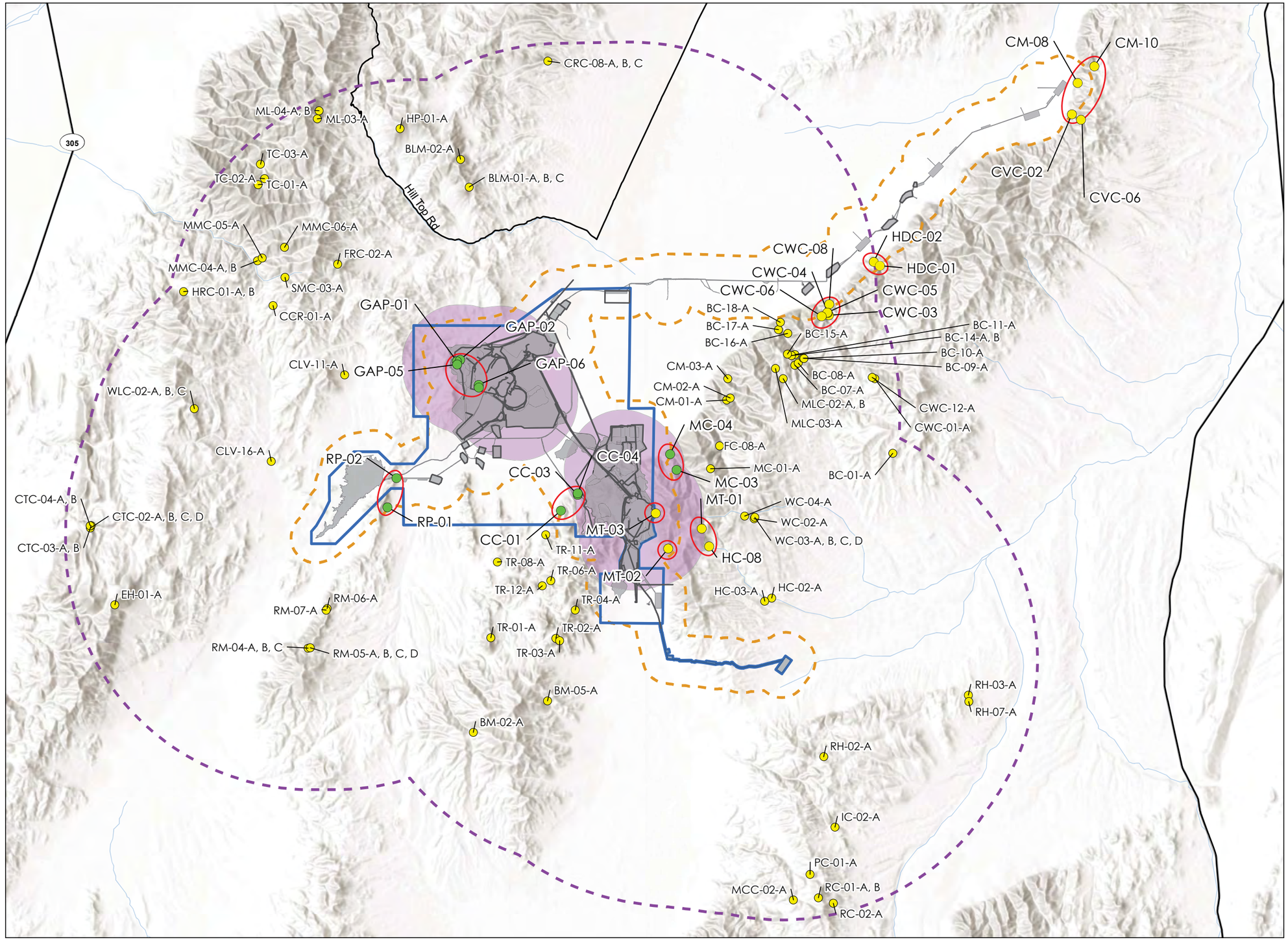
1 in = 8 miles

Eureka and Lander County, NV
NAD 1983 UTM Zone 11N

DRAWN BY: CJ	1ST REVIEW: JT	2ND REVIEW: DE
DATE: 1/5/2021	PROJECT NO: 2037221840	

Nevada Gold Mines LLC
Cortez District
Golden Eagle Conservation Plan

Figure 1
Project Location and Study Area



Legend

- Cortez Mine Plan of Operations Boundary
- Study Area (10-mile Buffer of Project Area)
- Cortez Mine Authorized Disturbance
- One-Mile Radius of Authorized Disturbance
- Pit Blasting Two-Mile Radius
- Golden Eagle Nest Territory
- Golden Eagle Nest
- Golden Eagle Nest Subject to Take

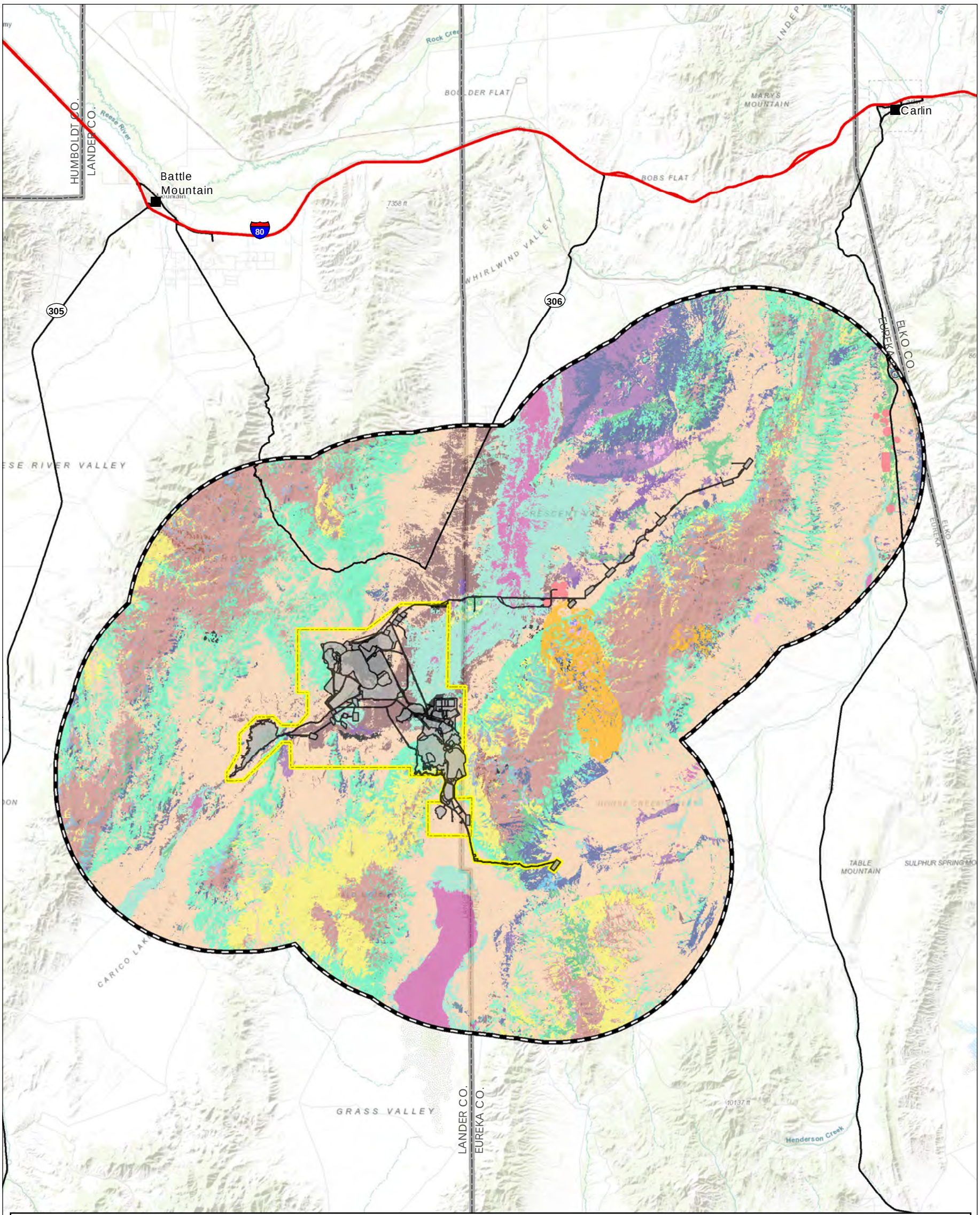
Miles
0 2 4
1 in = 4 miles
N

Eureka and Lander County, NV
NAD 1983 UTM Zone 11N

PROJECT NO: 203722641
DRAWN BY: IH
1ST REVIEW: BT
2ND REVIEW: SM
DATE: 2023-12-08

Nevada Gold Mines LLC
Cortez District
Golden Eagle Conservation Plan

Figure 2
Territories within Proximity of Authorized Mining



Legend

Cortez Mine Plan of Operations (Plan) Boundary

Approved Facilities

10-mile Radius of Approved Facilities (Study Area)

N

Miles

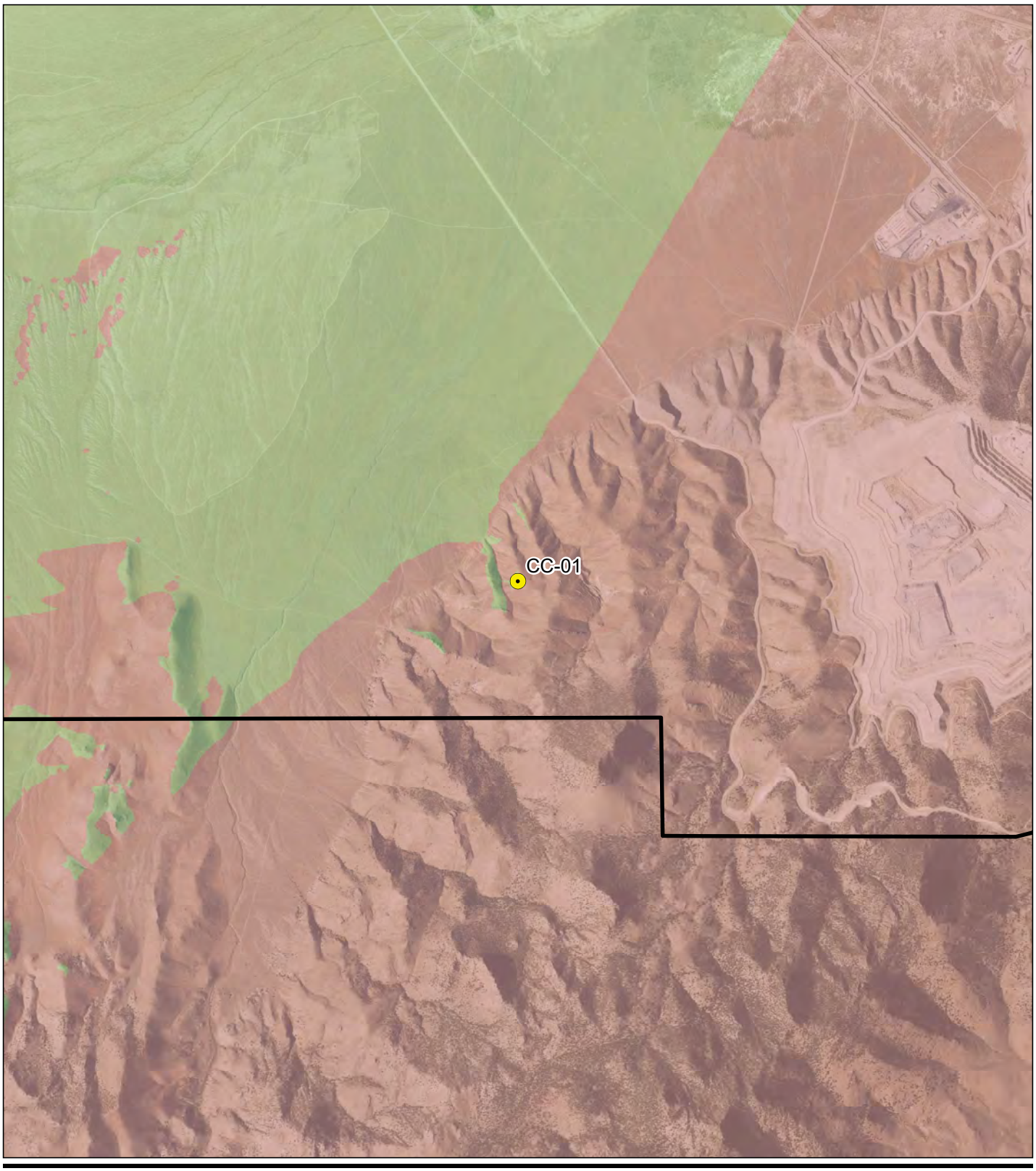
0 3 6 1 in = 6 miles

Eureka and Lander County, NV
NAD 1983 UTM Zone 11N

DRAWN BY: CJ	1ST REVIEW: BT	2ND REVIEW: DE
DATE: 10/2/2020	PROJECT NO: 203721840	

Nevada Gold Mines LLC
Cortez District
Golden Eagle Conservation Plan

Figure 3
Foraging Habitat
within the Study Area



Legend

- Golden Eagle Nest
- Cortez Mine Plan of Operations Boundary
- Not Visible
- Visible

N

0 1,500 3,000 Feet

1 in = 3,000 Feet

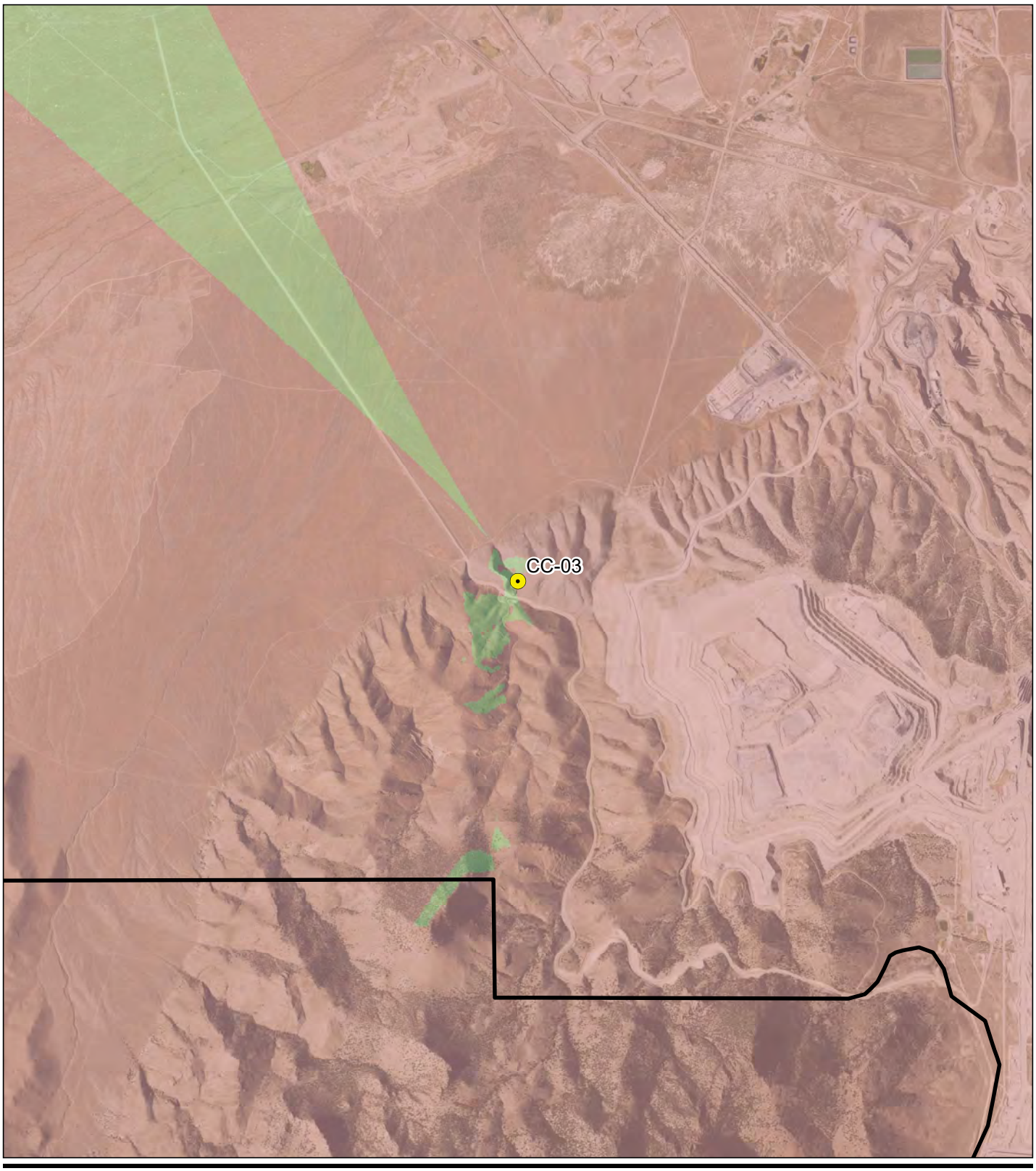
Eureka and Lander Counties, NV
NAD 1983 UTM Zone 11N

DATE: 2023-03-24

Nevada Gold Mines LLC
Cortez Mine Project
Golden Eagle Nest Monitoring Plan

Figure 4
CC-01 Golden Eagle Nest Viewshed Results

Service Layer Credits: USA NAIP Imagery: Natural Color: Esri, USDA Farm Service Agency



Legend

- Golden Eagle Nest
- Cortez Mine Plan of Operations Boundary
- Not Visible
- Visible

N

0 1,500 3,000 Feet

1 in = 3,000 Feet

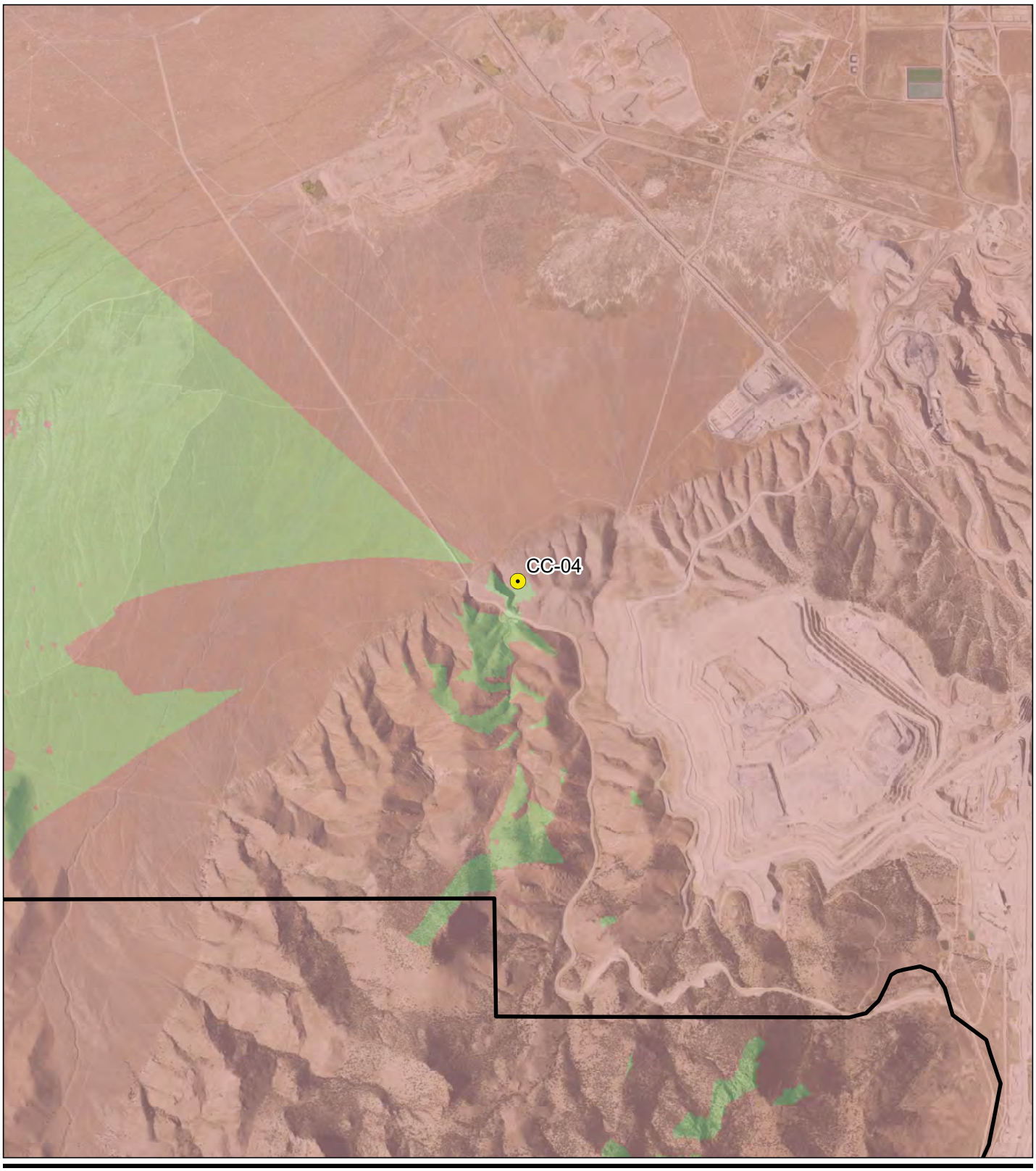
Eureka and Lander Counties, NV
NAD 1983 UTM Zone 11N

DATE: 2023-03-24

Nevada Gold Mines LLC
Cortez Mine Project
Golden Eagle Nest Monitoring Plan

Figure 5
CC-03 Golden Eagle Nest Viewshed Results

Service Layer Credits: USA NAIP Imagery: Natural Color: Esri, USDA Farm Service Agency



Legend

- Golden Eagle Nest
- Cortez Mine Plan of Operations Boundary
- Not Visible
- Visible

N

0 1,500 3,000 Feet

1 in = 3,000 Feet

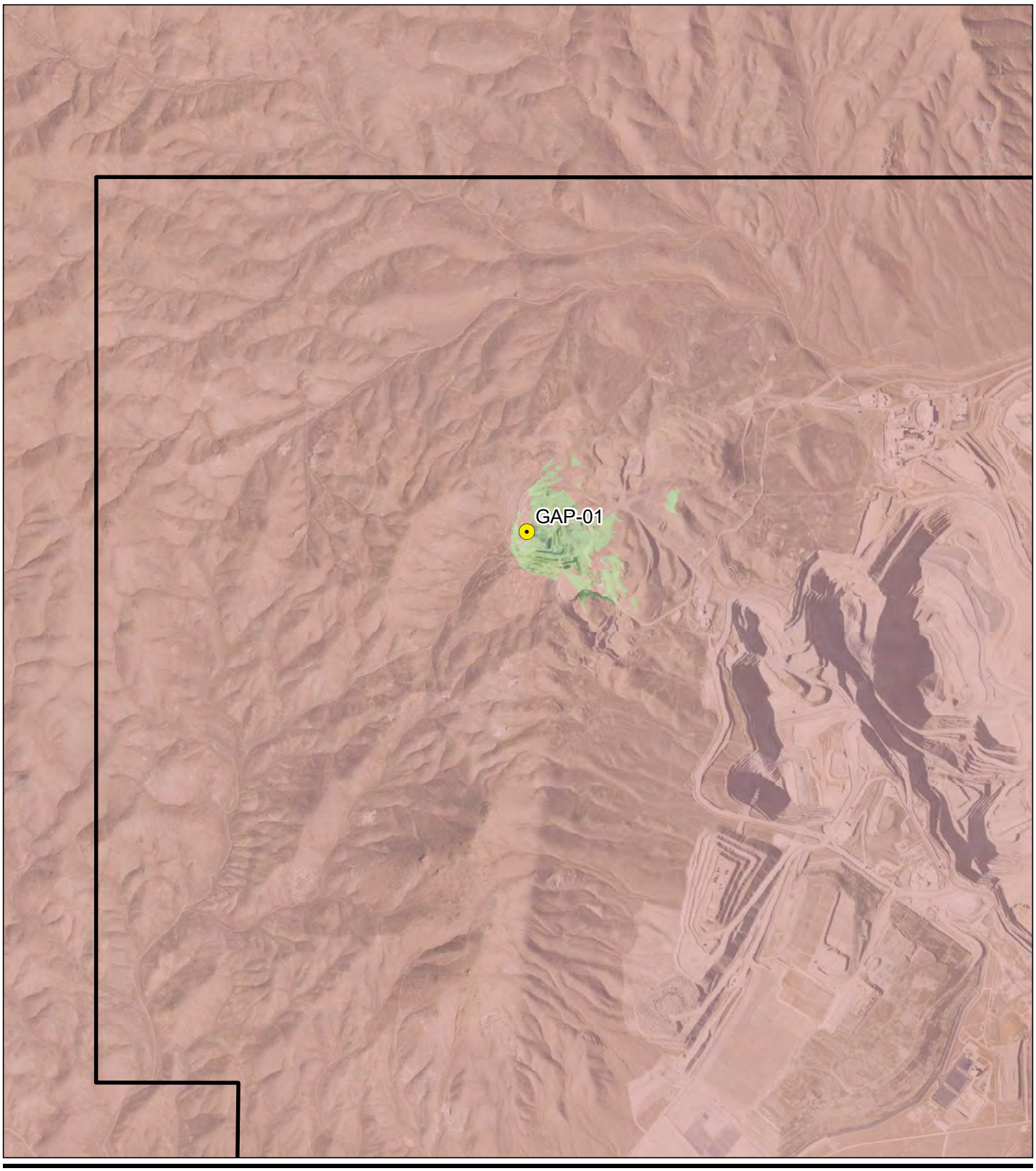
Eureka and Lander Counties, NV
NAD 1983 UTM Zone 11N

DATE: 2023-03-24

Nevada Gold Mines LLC
Cortez Mine Project
Golden Eagle Nest Monitoring Plan

Figure 6
CC-04 Golden Eagle Nest Viewshed Results

Service Layer Credits: USA NAIP Imagery: Natural Color: Esri, USDA Farm Service Agency



Legend

- Golden Eagle Nest
- Cortez Mine Plan of Operations Boundary
- Not Visible
- Visible

N

0 1,500 3,000 Feet

1 in = 3,000 Feet

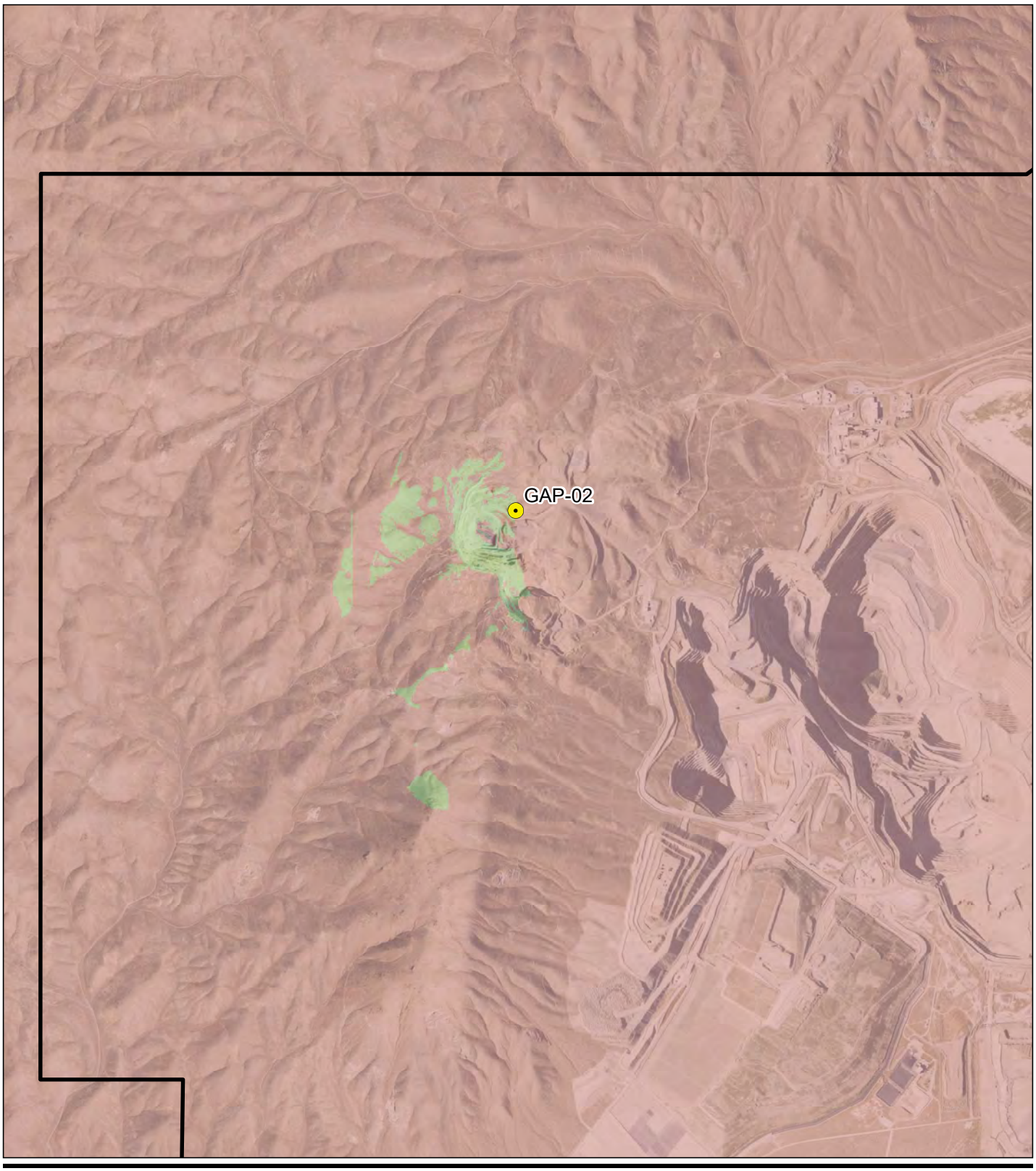
Eureka and Lander Counties, NV
NAD 1983 UTM Zone 11N

DATE: 2023-03-24

Nevada Gold Mines LLC
Cortez Mine Project
Golden Eagle Nest Monitoring Plan

Figure 7
GAP-01 Golden Eagle Nest Viewshed Results

Service Layer Credits: USA NAIP Imagery: Natural Color: Esri, USDA Farm Service Agency



Legend

- Golden Eagle Nest
- Cortez Mine Plan of Operations Boundary
- Not Visible
- Visible

N

0 1,500 3,000 Feet

1 in = 3,000 Feet

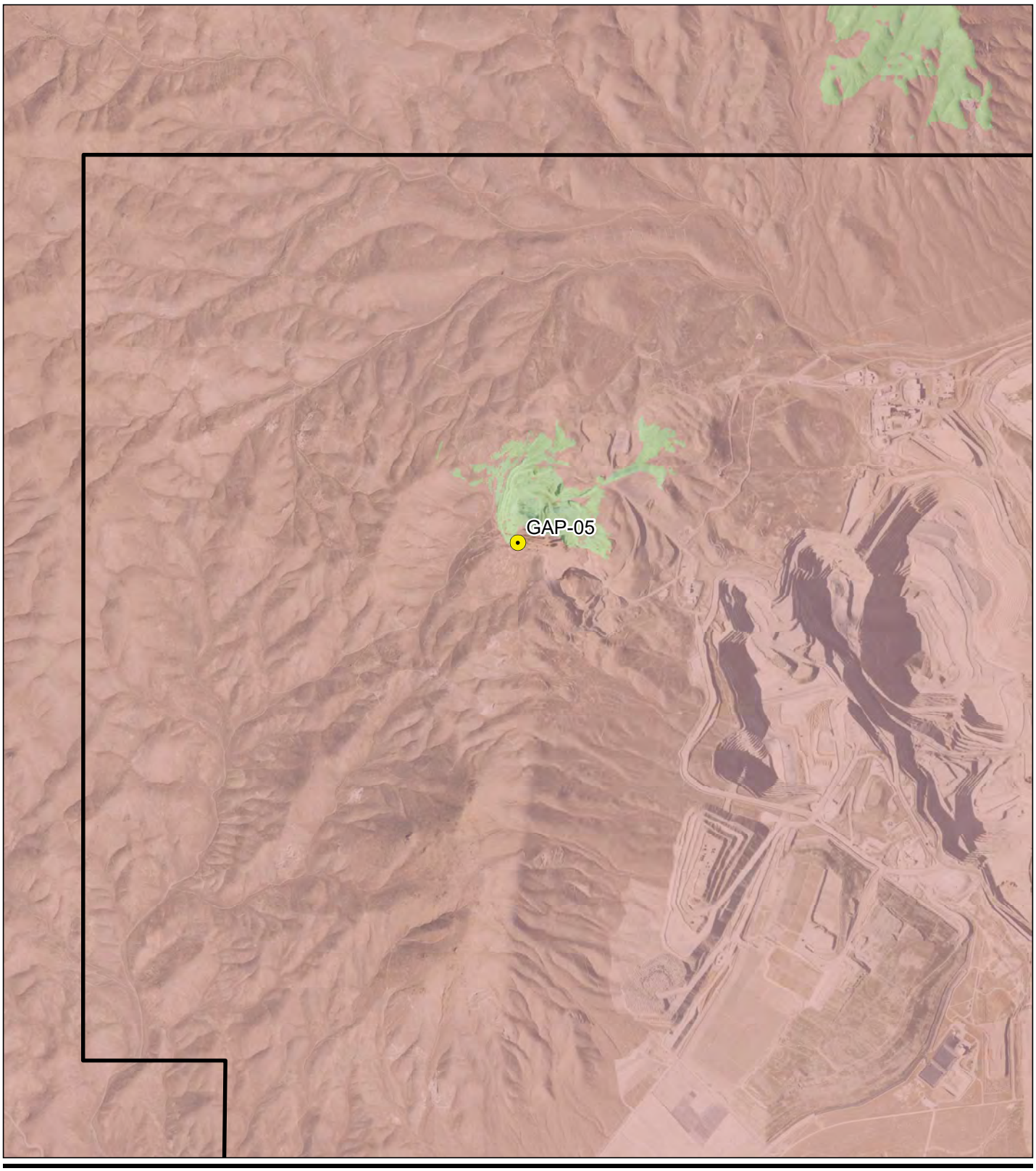
Eureka and Lander Counties, NV
NAD 1983 UTM Zone 11N

DATE: 2023-03-24

Nevada Gold Mines LLC
Cortez Mine Project
Golden Eagle Nest Monitoring Plan

Figure 8
GAP-02 Golden Eagle Nest Viewshed Results

Service Layer Credits: USA NAIP Imagery: Natural Color: Esri, USDA Farm Service Agency



Legend

- Golden Eagle Nest
- Cortez Mine Plan of Operations Boundary
- Not Visible
- Visible

N

0 1,500 3,000 Feet

1 in = 3,000 Feet

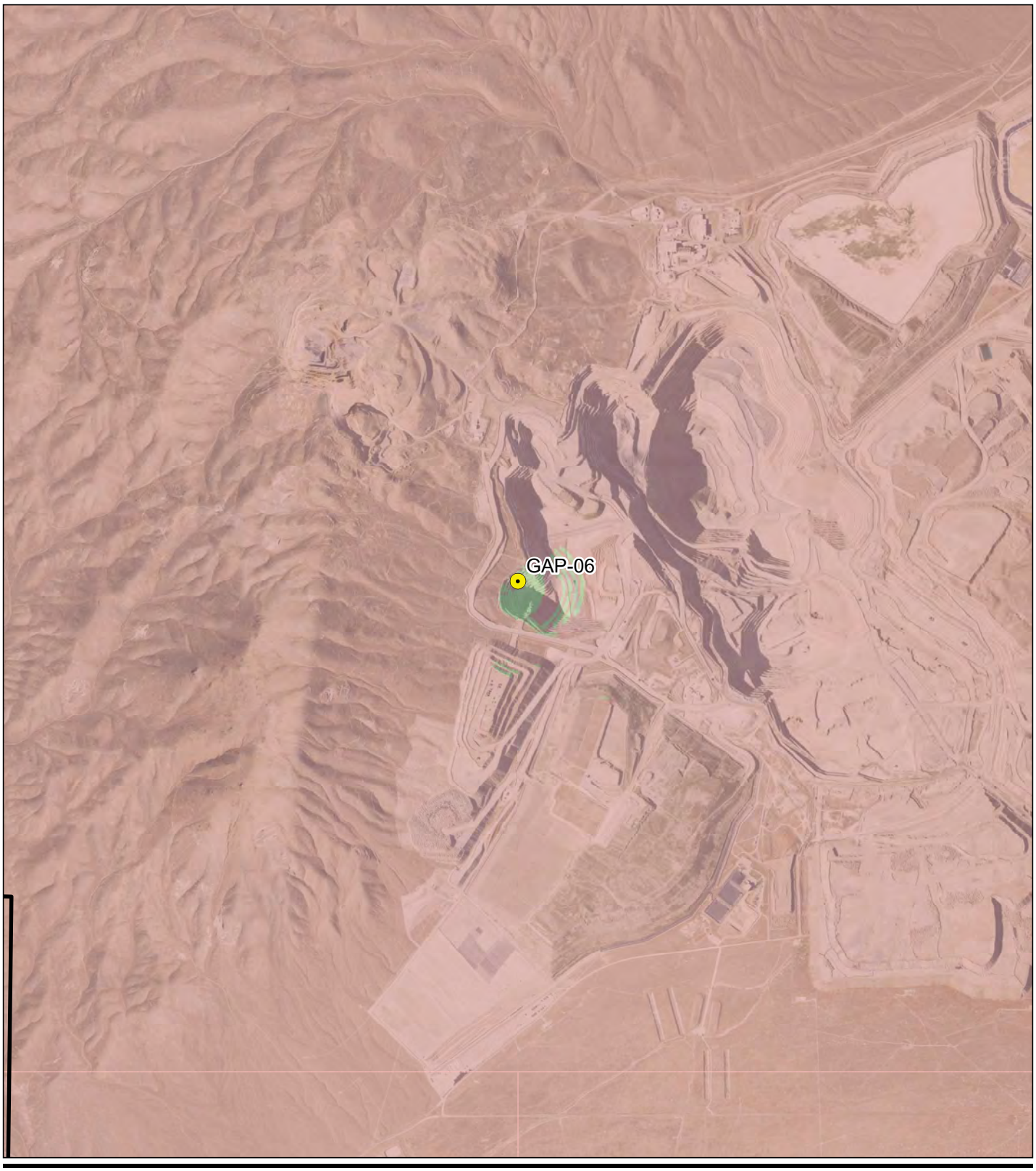
Eureka and Lander Counties, NV
NAD 1983 UTM Zone 11N

DATE: 2023-03-24

Nevada Gold Mines LLC
Cortez Mine Project
Golden Eagle Nest Monitoring Plan

Figure 9
GAP-05 Golden Eagle Nest Viewshed Results

Service Layer Credits: USA NAIP Imagery: Natural Color: Esri, USDA Farm Service Agency



Legend

- Cortez Mine Project Plan of Operations Boundary
- Golden Eagle Nest
- Not Visible
- Visible

N

Feet
0 1,500 3,000
1 in = 3,000 Feet

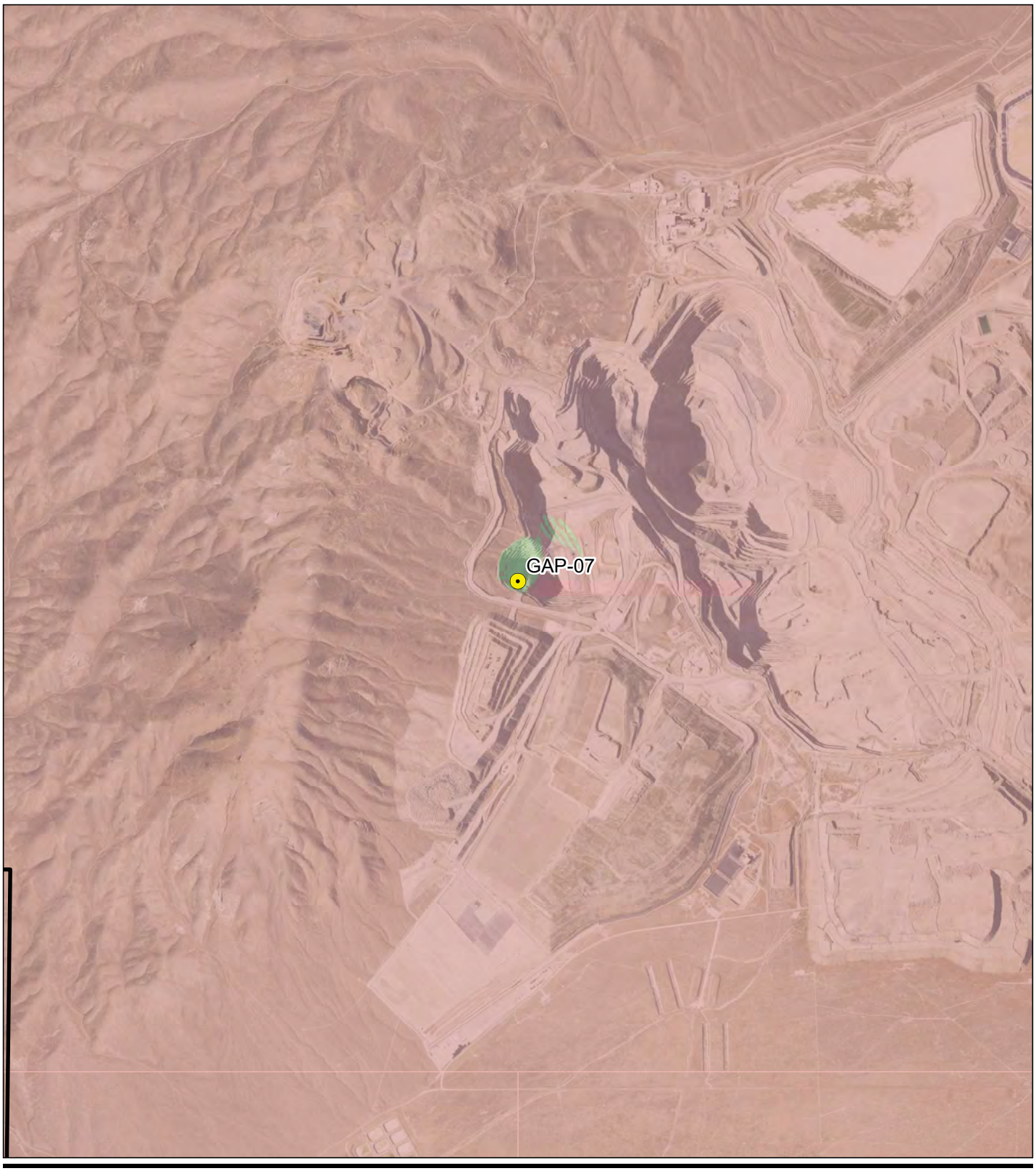
Eureka and Lander Counties, NV
NAD 1983 UTM Zone 11N

DATE: 2023-12-08

Nevada Gold Mines LLC
Cortez Mine Project
Golden Eagle Conservation Plan

Figure 10
GAP-06 Golden Eagle Nest Viewshed Results

Service Layer Credits: USA NAIP Imagery: Natural Color: Esri, USDA Farm Service Agency



Legend

- Cortez Mine Project Plan of Operations Boundary
- Golden Eagle Nest
- Not Visible
- Visible

N

0 1,500 3,000 Feet

1 in = 3,000 Feet

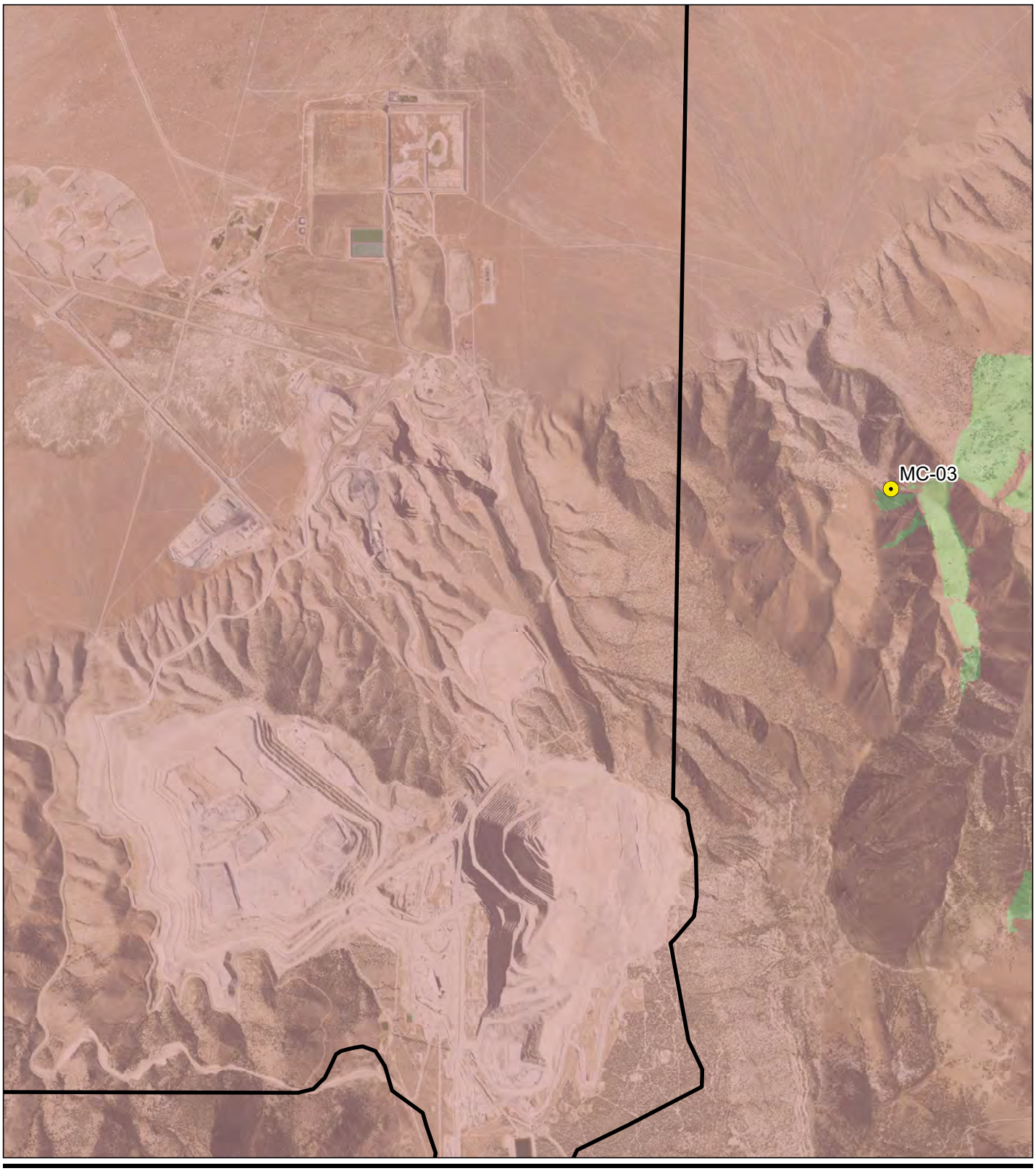
Eureka and Lander Counties, NV
NAD 1983 UTM Zone 11N

DATE: 2023-12-08

Nevada Gold Mines LLC
Cortez Mine Project
Golden Eagle Conservation Plan

Figure 11
GAP-07 Golden Eagle Nest Viewshed Results

Service Layer Credits: USA NAIP Imagery: Natural Color: Esri, USDA Farm Service Agency



Legend

- Golden Eagle Nest
- Cortez Mine Plan of Operations Boundary
- Not Visible
- Visible

N

0 1,500 3,000 Feet

1 in = 3,300 Feet

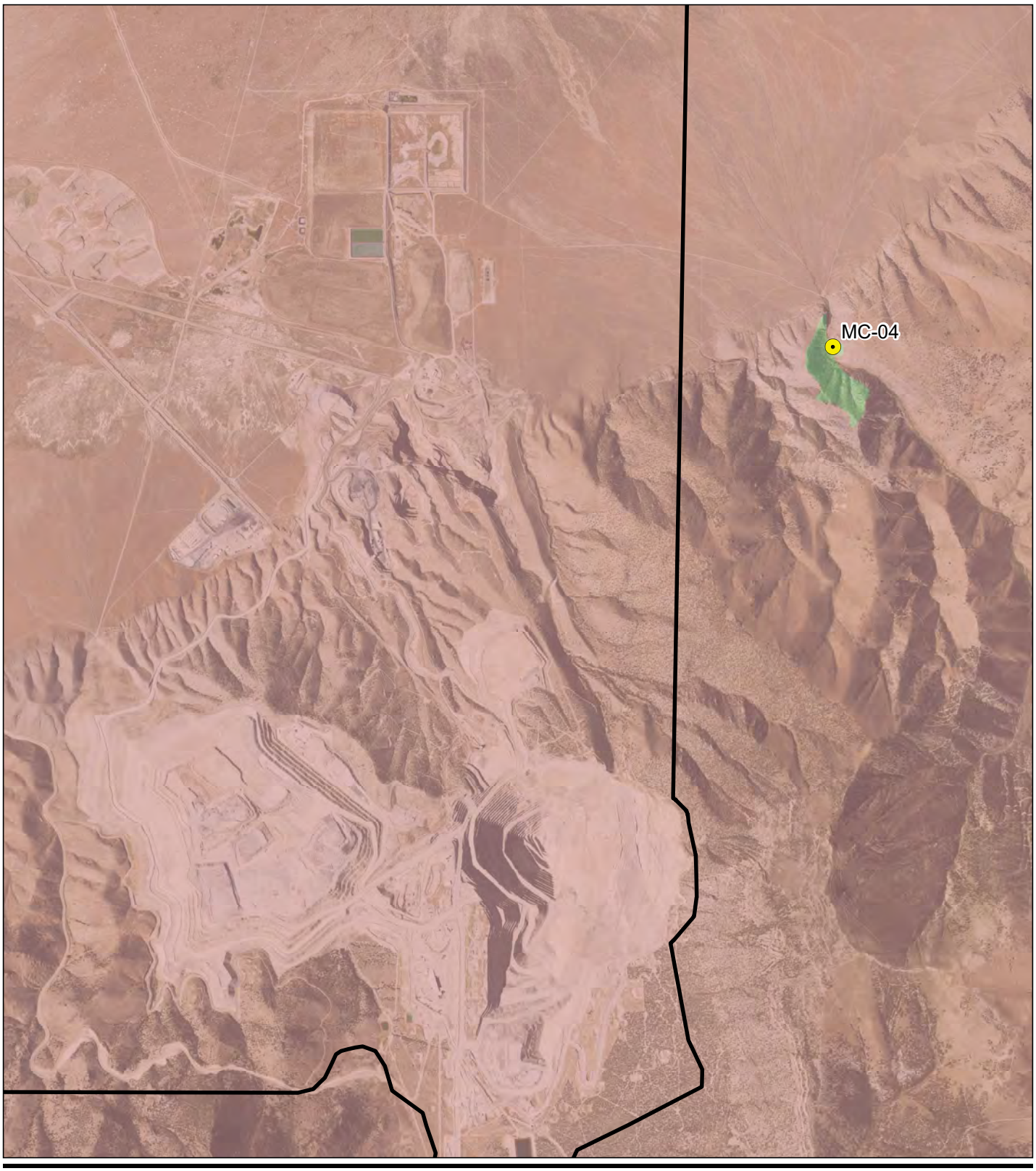
Eureka and Lander Counties, NV
NAD 1983 UTM Zone 11N

DATE: 2023-03-24

Nevada Gold Mines LLC
Cortez Mine Project
Golden Eagle Nest Monitoring Plan

Figure 12
MC-03 Golden Eagle Nest Viewshed Results

Service Layer Credits: USA NAIP Imagery: Natural Color: Esri, USDA Farm Service Agency



Legend

- Golden Eagle Nest
- Cortez Mine Plan of Operations Boundary
- Not Visible
- Visible

N

0 1,500 3,000 Feet

1 in = 3,300 Feet

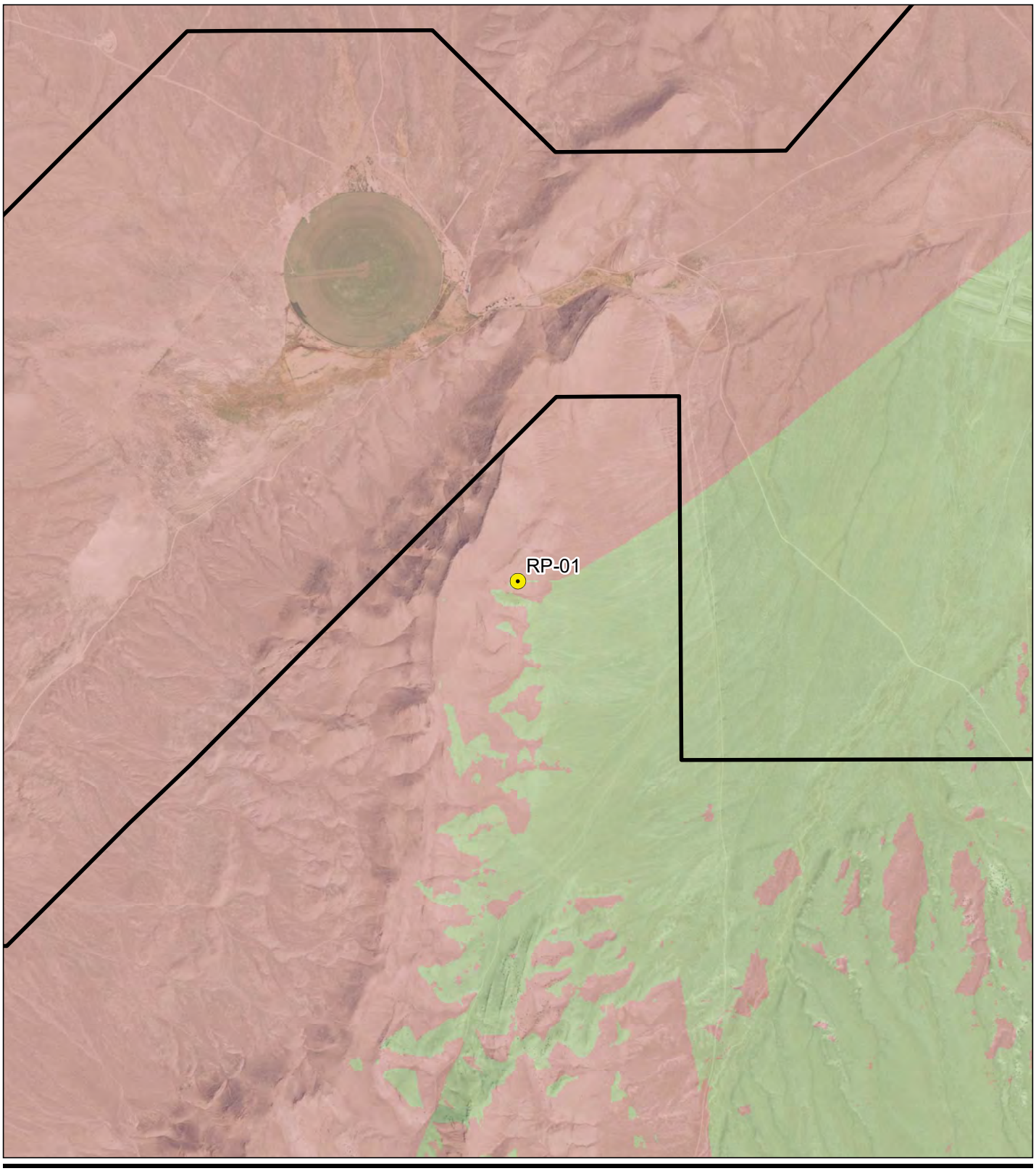
Eureka and Lander Counties, NV
NAD 1983 UTM Zone 11N

DATE: 2023-03-24

Nevada Gold Mines LLC
Cortez Mine Project
Golden Eagle Nest Monitoring Plan

Figure 13
MC-04 Golden Eagle Nest Viewshed Results

Service Layer Credits: USA NAIP Imagery: Natural Color: Esri, USDA Farm Service Agency



Legend

- Golden Eagle Nest
- Cortez Mine Plan of Operations Boundary
- Not Visible
- Visible

N

0 1,500 3,000 Feet

1 in = 3,000 Feet

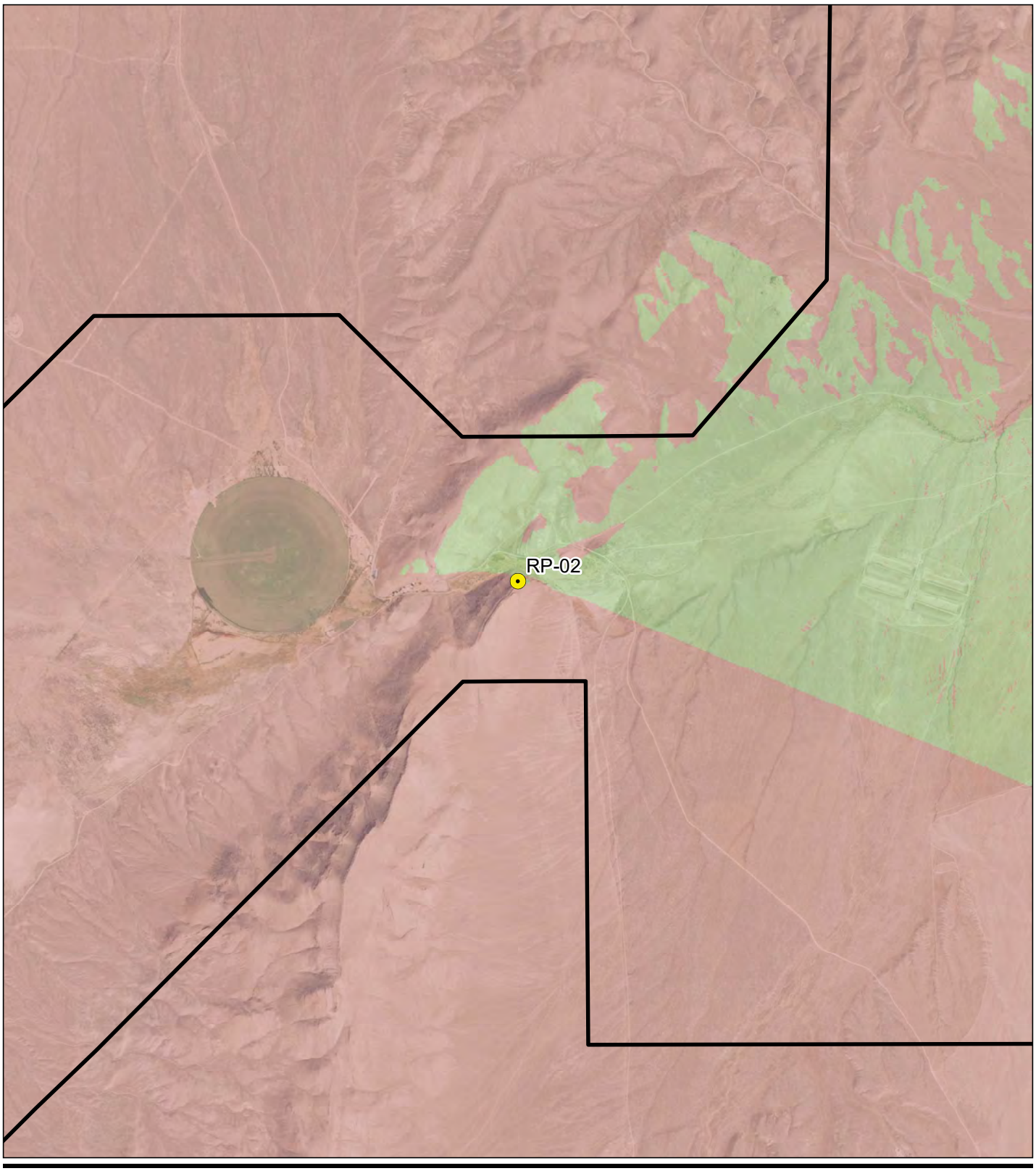
Eureka and Lander Counties, NV
NAD 1983 UTM Zone 11N

DATE: 2023-03-24

Nevada Gold Mines LLC
Cortez Mine Project
Golden Eagle Nest Monitoring Plan

Figure 14
MC-04 Golden Eagle Nest Viewshed Results

Service Layer Credits: USA NAIP Imagery: Natural Color: Esri, USDA Farm Service Agency



Legend

- Golden Eagle Nest
- Cortez Mine Plan of Operations Boundary
- Not Visible
- Visible

N

0 1,500 3,000 Feet

1 in = 3,000 Feet

Eureka and Lander Counties, NV
NAD 1983 UTM Zone 11N

DATE: 2023-03-24

Nevada Gold Mines LLC
Cortez Mine Project
Golden Eagle Nest Monitoring Plan

Figure 15
RP-02 Golden Eagle Nest Viewshed Results

Service Layer Credits: USA NAIP Imagery: Natural Color: Esri, USDA Farm Service Agency

APPENDIX B

Eagle Conservation Plan, Phoenix Mine Project

EAGLE CONSERVATION PLAN
PHOENIX MINE PROJECT
LANDER COUNTY, NEVADA

Prepared for:

Nevada Gold Mines LLC
Phoenix Mine
1655 Mountain City Highway
Elko, Nevada 89801

May 2024

TABLE OF CONTENTS

TABLES

FIGURES

ACRONYMS AND ABBREVIATIONS

BGEPA	Bald and Golden Eagle Protection Act of 1940, as Amended
BLM	Bureau of Land Management
CFR	Code of Federal Regulations
ECP	Eagle Conservation Plan
E-Pond	Event Pond
EMU	Eagle Management Unit
IAPP	Industrial Artificial Pond Permit
In-Lieu Fee Program	Bald Eagle and Golden Eagle Electrocution Prevention In-Lieu Fee Program
NDOW	Nevada Department of Wildlife
NEPA	National Environmental Policy Act
NGM	Nevada Gold Mines LLC
Phoenix	Phoenix Mine
Plan	Plan of Operations
Project	Phoenix Mine Project
REA	Resource Equivalency Analysis
Service	United States Fish and Wildlife Service
study area	10-Mile Radius of the Project Area
SWReGAP	Southwest Regional Gap Analysis Project
USFWS	United States Fish and Wildlife Service
WRSF	Waste Rock Storage Facility

1.0 PURPOSE OF THIS PLAN

The purpose of this Eagle Conservation Plan (ECP) is to support application(s) for a golden eagle (*Aquila chrysaetos*) nest take permit under the permit regulations of the Bald and Golden Eagle Protection Act of 1940, as amended (BGEPA). Specifically, Nevada Gold Mines LLC (NGM) is requesting a take permit issued by the United States Fish and Wildlife Service (Service or USFWS) under 50 Code of Federal Regulations (CFR) § 22.26 for the incidental take of golden eagles from otherwise lawful activities associated with the Phoenix Mine (Phoenix) Project (Project). The Project is located in Lander County, Nevada (**Figure 1**).

The BGEPA (as amended) prohibits the take of bald and golden eagles. The BGEPA defines "take" to include "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb" and prohibits take of individuals and their parts, nests, or eggs. "Disturb" is further defined as "means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment by substantially interfering with normal breeding, feeding, or sheltering behavior." Permitting regulations (50 CFR Part 22) were issued in 2009 and revised in 2016. Known as the "Eagle Permitting Rule," these regulations allow the USFWS to administer a permit program allowing for the lawful take of eagles and nests.

Phoenix has prepared this ECP as a precursor to applying for a BGEPA eagle take permit. This ECP provides the necessary support materials to accompany an eagle nest take permit application and demonstrates that the proposed take is compatible with the preservation of golden eagles and the issuance criteria in 50 CFR § 22.26. This ECP will accompany the eagle nest take permit application requesting authorization for reoccurring disturbance to and loss of annual productivity from up to two golden eagle breeding pairs' territories for a 30-year period.

An application for a take permit under 50 CFR § 22.26 requires the information listed below. Also provided is a reference to where in this ECP that information is provided:

- Identification of the species proposed to be taken, the amount of take, and the type of take (e.g., disturb, incidental mortality, or injury) (**Section 5.0**).
- The duration of the permit (**Section 1.0**).
- A description of the Project activity as it relates to eagles, including the following:
    - A description of the activity (**Sections 2.0** and **5.0**);
    - The dates the activity will start and is projected to end (**Section 1.0**);
    - An explanation of why the take of eagles is necessary, including what interests will be protected by the Project or activity (**Sections 2.0**, **5.0**, and **8.0**); and
    - The location of the activity, including maps, photographs, and geographic coordinates, as appropriate (**Figures 1** through **3**).
- Information about eagle activity relevant to the Project activity, including the following:
    - A description of the type of eagle activity (e.g., nesting, roosting, important use area, etc.) (**Sections 3.0** and **4.0**);

- Location of the eagle activity, including geographic coordinates and, as appropriate, maps, digital photographs, and other information (NGM, 2021);
- History of the nest occupation, roost area, or important use area, if known (**Section 4.0** and NGM, 2021); and
- If known, the specific distance and locations of nests and other eagle-use areas from the Project footprint (**Section 4.0** and NGM, 2021).

- If take is in the form of disturbance, information about the following:
  - Whether the activity will be visible to eagles in the eagle-use areas or whether there are visual buffers such as screening vegetation or topography that block the view (**Figures 4** through **11**); and
  - The extent of existing activities in the vicinity that are similar in nature, size, and use to the activity and the distance between those activities and the important eagle-use areas (**Section 2.0** and **Figures 1** through **11**).

- A detailed description of all avoidance, minimization, mitigation, and monitoring measures incorporated into the planning for the activity will be implemented to reduce the likelihood for take of eagles (**Sections 6.0**, **7.0**, and **8.0**).

- Project-specific monitoring and survey protocols, take probability models, and any other applicable data quality standards and all the data thereby obtained (NGM, 2021, and **Section 8.0**).

2.0 INTRODUCTION AND BACKGROUND

2.1 Mine History

The Phoenix Mine is a gold and copper mine located in the Copper Canyon area of the Battle Mountain Mining District. The Copper Canyon area has a long history of minerals production dating back to the initial discovery of copper ore in 1864. Mining and beneficiation operations have been conducted through a steady succession of owners/operators and production periods. Beginning in the late 1970s, mining and recovery of precious metal ores continued through 1993, and mining and heap leaching of disseminated precious metal ores began in 1990 and continues through the present.

2.2 Authorized Facilities

The authorized Plan of Operations (Plan) boundary is 18,839 acres, including 10,132 acres of public land managed by the Bureau of Land Management (BLM). Total mine-related surface disturbance, which is authorized until 2063, in the Plan boundary is approximately 11,871 acres, which includes 5,975 acres on private land and 5,896 acres on public land. The Phoenix Project is located in Copper Canyon within the Battle Mountain Range near Antler Peak, approximately 12 miles southwest of Battle Mountain, Nevada. Elevations in the Project area range from approximately 5,000 feet in Buffalo Valley and Reese River Valley to approximately 6,800 feet at the upper ridgelines above Copper Canyon and Box Canyon.

Authorized and existing facilities at Phoenix include Phoenix Pit, stockpiles, waste rock storage facilities (WRSFs), tailings storage facilities, growth media stockpiles, borrow areas, haul and access roads, and various ancillary and processing facilities. Territories within proximity of authorized and existing mining and processing facilities in the Plan boundary are shown on **Figure 2**. NGM may conduct surface disturbance associated with the areas shown in gray on **Figure 2**. Blasting to break up rock for processing may occur in the authorized Phoenix Pit (**Figure 2**).

A summary of avoidance and minimization measures in place at Phoenix that relate to golden eagles are included in **Section 6.0**.

3.0 AREA HABITATS

The Eagle Conservation Plan Guidance Module 1 – Land-Based Wind Energy, Version 2, recommends that an analysis of potential impacts on nesting golden eagles include the Project footprint itself and a surrounding 10-mile buffer area (study area) (**Figure 1**).

3.1 Foraging Habitat

Vegetation communities in the study area have been mapped by the Southwest Regional Gap Analysis Project (SWReGAP) in land cover files for the study area (**Figure 3**) (USGS, 2011). The SWReGAP mapping shows 24 vegetation communities occurring within the study area. **Table 1** presents the total acres of the vegetation communities within the study area. Golden eagle prey species such as black-tailed jackrabbits (*Lepus californicus*), mountain cottontails (*Sylvilagus nuttallii*), and larger diurnal rodents such as yellow-bellied marmots (*Marmota flaviventris*) are commonly found in many of the vegetation communities present in the Project area.

Table 1 Vegetation Community Types in the Study Area

Vegetation Community Name	Acres	Percent of Study Area
Agriculture	1,815	0.50
Barren Lands, Non-Specific	184	0.05
Developed, Medium – High Intensity	145	0.04
Developed, Open Space – Low Intensity	380	0.11
Great Basin Foothill and Lower Montane Riparian Woodland and Shrubland	258	0.07
Great Basin Pinyon-Juniper Woodland	7,227	2.00
Great Basin Xeric Mixed Sagebrush Shrubland	45,155	12.47
Inter-Mountain Basins Big Sagebrush Shrubland	124,687	34.44
Inter-Mountain Basins Big Sagebrush Steppe	477	0.13
Inter-Mountain Basins Cliff and Canyon	4,997	1.38
Inter-Mountain Basins Greasewood Flat	101,016	27.90
Inter-Mountain Basins Mixed Salt Desert Scrub	35,000	9.67
Inter-Mountain Basins Montane Sagebrush Steppe	17,580	4.86
Inter-Mountain Basins Mountain Mahogany Woodland and Shrubland	20	0.01
Inter-Mountain Basins Playa	4,527	1.25
Inter-Mountain Basins Semi-Desert Grassland	1,635	0.45
Inter-Mountain Basins Semi-Desert Shrub Steppe	45	0.01
Invasive Annual and Biennial Forbland	5,874	1.62
Invasive Annual Grassland	2,307	0.64
North American Arid West Emergent Marsh	349	0.1
Open Water	61	0.02
Recently Mined or Quarried	8,284	2.29
Rocky Mountain Aspen Forest and Woodland	24	0.01
Rocky Mountain Dry Tundra	2	<1
Total	**362,048[1]**	**100**

[1.] Within the 362,048 acres of vegetation communities, approximately 11,871 acres of disturbance is authorized for the Phoenix Mine.

Other habitat types that are believed to represent important golden eagle foraging habitats in the region include roads and wetlands, natural water sources, and meadows. Wetlands and springs provide a reliable water source for eagle prey and, therefore, allow higher concentrations of eagle prey. There are multiple

seeps, springs, and drainages through the study area, primarily in the Battle Mountain Range to the north and the Fish Creek Mountains to the south. There are also playas to the east and west that collect water. Marsh habitats and agricultural landscapes in the study area support large populations of rodents and lagomorphs. A number of roads, paved (e.g., State Route 305) and non-paved, are located within the study area. Golden eagles feed on carrion, which can be found along roads, especially during winter and even when live prey is available; golden eagles have been known to consume fresh carrion during nesting season (Kochert and Steenhof, 2002).

3.2 Nesting Habitat

Within the study area, various rock outcrops and mine highwalls were identified as areas with nesting golden eagles. In 2018, there were seven in-use golden eagle nests documented in the study area, all of which were either on rock outcrops or highwalls. Cliffs and rocky outcrops are available throughout the northern portion of the study area on Battle Mountain and in the southwest corner of the study area in the northern portion of the Fish Creek Mountains.

3.3 Topographic Features Attractive to Eagles

Tops of slopes oriented perpendicular to prevailing winds or near ridge crests of cliff edges are features that are conducive to slope soaring and are attractive features for eagles. Saddles or low points on ridgelines or near riparian corridors may serve as flight paths. Nearby perch and roost sites may also attract eagles. As described above, the area surrounding Phoenix represents golden eagle potential foraging habitat, though the value of this habitat varies in quality.

Cliffs and outcrops occur on Battle Mountain to the north and in the northern portion of the Fish Creek Mountains to the southwest. Mountainous areas that include ridgelines and slopes with a variety of aspects, such that winds from multiple directions would create deflection currents, are suitable for soaring.

Habitats surrounding Phoenix include perch and roost sites, and the area is suitable golden eagle nesting and foraging habitat as described above.

4.0 TERRITORIES PROPOSED FOR TAKE

A major component of the risk assessment is to identify Project activities that could result in a take. Those territories proposed for take are those that have been identified within the Plan boundary and are in the Service's two-mile buffer for blasting activities and/or one-mile buffer for surface disturbance activities (NGM, 2021).

Nests within one mile of authorized surface disturbance, two miles of authorized blasting, and/or within the authorized disturbance footprint are provided in **Table 2**. Incidental take could occur to eight nests associated with two unique territories as indicated in **Table 2**. As such, the potential impacts of the Project would include the indirect take of two territories represented by a loss of productivity. A viewshed analysis has been conducted using authorized disturbance, post-reclamation topography, and Geographic Information System tools for each nest, which are shown on **Figures 4** through **11** to illustrate the portions of anthropogenic activity that are within line of sight from the golden eagle nests subject to take.

Table 2 Nests Within One Mile of Authorized Disturbance or Two Miles of Authorized Pit Blasting

Territory	Nest ID	Within One Mile of Authorized Surface Disturbance	Within Two Miles of Authorized Pit Blasting
4	CBR-01-A	Yes	Yes
	CBR-01-B	Yes	Yes
	CBR-01-C	Yes	Yes
	CBR-01-D	Yes	Yes
	CBR-01-E	Yes	Yes
10	PC-03-A	Yes	Yes
	PC-04-A	Yes	Yes
	PC-05-A	Yes	Yes

CBR-01-A, **B**, **C**, **D**, and **E**: All five nests within this territory are within one mile of authorized surface disturbance and two miles of authorized pit blasting. This territory is also within Phoenix's authorized expanded tailings facility that has yet to be constructed; however, NGM does not have any intention to directly remove any nests located within areas where mining has been authorized in the next 30 years. If mine plans change, NGM will coordinate with the USFWS regarding applying for a direct take permit. As shown on **Figures 4** through **8**, the expanded tailings storage facility and agricultural cropping area would be the main mine components visible from each of the five nests in this territory, some of which has yet to be constructed. In addition, portions of the Natomas and Box Canyon WRSFs and portions of the Reona heap leach facility would also be visible from each of the nests.

PC-03-A, **PC-04-A**, and **PC-05-A**: All three nests within this territory are within one mile of authorized surface disturbance and two miles of authorized pit blasting. As shown on **Figures 9** through **11**, the authorized borrow area along Buffalo Valley Road would be visible from each nest.

The potential for incidental disturbance take of up to two golden eagle territories is unavoidable due to the location of the ore bodies that occur adjacent to the nests, as well as the economic factors that contribute to the profitable extraction of the minerals contained therein. NGM is committed to coordinating unavoidable take with the USFWS and completing required mitigation with the goal of achieving a stable or increasing nesting population of golden eagles. Because NGM has applied for a take permit for the proposed take of

these breeding territories, these impacts would be fully offset through mitigation, and surface and blasting activities would not be restricted in the one- and two-mile buffers.

4.1 Territory 4: CBR-01-A, B, C, D, and E

Nest sites CBR-01-A, B, C, D, and E are thought to make up this breeding territory. Three nests are located on the upper rim, while two nests are located just below on the second shelf of the foothill within the authorized expanded tailings storage facility. The authorized expanded tailings facility has yet to be constructed, and NGM has committed to not directly removing any nests located within areas where mining has been authorized. If NGM determines that the authorized tailings facility is needed, NGM will coordinate with the USFWS and determine if a modification to its existing take permit is needed or if a new take permit application will need to be submitted for the direct take and subsequent National Environmental Policy Act (NEPA) analysis of this territory. This site, which contains five observed nests, is located on a cliff face within the Plan boundary. Specific details about the nests are discussed below.

CBR-01-A was found in 2012 and was identified as a potential golden eagle nest due to the size of the nest and the size of the nesting substrate used. This nest was surveyed five times (2012, 2013, 2018, 2021, and 2022) and has never been in use. Therefore, this nest has a breeding effort rate of zero for golden eagles.

CBR-01-B was found in 2012 and was identified as a potential golden eagle nest due to the size of the nest and the size of the nesting substrate used. This nest was surveyed five times (2012, 2013, 2018, 2021, and 2022) and has never been in use. Therefore, this nest has a breeding effort rate of zero for golden eagles.

CBR-01-C was found in 2012 and was identified as a potential golden eagle nest due to the size of the nest and the size of the nesting substrate used. This nest was surveyed five times (2012, 2013, 2018, 2021, and 2022) and has never been in use. Therefore, this nest has a breeding effort rate of zero for golden eagles.

CBR-01-D was found in 2012 and was identified as a potential golden eagle nest due to the size of the nest and the size of the nesting substrate used. This nest was surveyed five times (2012, 2013, 2018, 2021, and 2022) and was in use in 2018, giving it a breeding effort rate of 0.20 (20 percent) for golden eagles. The productivity rate is unknown, as eggs or fledged young were unable to be documented during the 2018 surveys due to an adult sitting on the nest.

CBR-01-E was found in 2012 and was identified as a potential golden eagle nest due to the size of the nest and the size of the nesting substrate used. This nest was surveyed five times (2012, 2013, 2018, 2021, and 2022) and has never been in use. Therefore, this nest has a breeding effort rate of zero for golden eagles.

4.2 Territory 10: PC-03-A, PC-04-A, PC-05-A

Nest sites PC-03-A, PC-04-A, and PC-05-A are thought to make up this breeding territory. Each nest is located on a cliff face in the Plan boundary. Specific details about each nest are discussed below.

PC-03-A was discovered in 2012 and was identified as a golden eagle nest. The PC-03-A nest was in use in 2012 and has been surveyed for five years (2012, 2013, 2018, 2021, and 2022), giving it a breeding effort rate of 0.20 (20 percent). This nest had two eggs during the first 2012 survey (May 30, 2012) and was empty during the second 2012 survey (June 25, 2012); therefore, this nesting attempt was considered to be unsuccessful.

PC-04-A was found in 2018 and was identified as a golden eagle nest that was in use by prairie falcons. The PC-04-A nest has been surveyed for three years (2018, 2021, and 2022). This nest has a breeding effort rate of zero for golden eagles.

PC-05-A was found in 2012 and was identified as a golden eagle nest that had partially collapsed. The nest was not in use in 2013. During the 2018 survey, the nest was in use by prairie falcons. On April 10, 2020, this nest was observed during pre-construction clearance migratory bird surveys with two adult golden eagles on the nest; no eggs or young were observed during the survey. After the eagles were identified, in coordination with the USFWS and BLM, a camera was set up approximately 0.6 mile from the nest to monitor activity at the nest. No disturbance from operations at Phoenix occurred within one mile of the golden eagle nest, per the requirements. During this camera monitoring, it was identified that an egg was laid, resulting in one nestling. During the period of June 1 to June 7, 2020, it was observed that the eaglet was showing signs of branching. The eaglet attempted to dismount from the rim of the nest. Based on the camera monitoring, the fledging attempt was unsuccessful (NGM, 2020). The PC-05-A nest has been surveyed for six years (2012, 2013, 2018, 2020, 2021, and 2022). Therefore, this nest has a maximum breeding effort rate of 0.17 for golden eagles.

5.0 RISK ASSESSMENT

This section presents a discussion of the assessment of the level of risk from the Project to the golden eagle breeding population in the vicinity. Potential disturbance-creating activities at Phoenix include mining, processing, exploration, and administrative and support processes; authorized mining activities are listed in **Section 2.0**. The greatest risk factor to golden eagles associated with an active mining operation will likely occur during the courtship, nesting, and fledging season. This is especially true when golden eagle breeding territories are located within the Plan boundary or nearby, as is the case for the territories proposed for take, which are described in **Section 4.0**.

A summary of proposed take to golden eagles anticipated from activities associated with Phoenix is provided in **Table 3**. Discussion of the risk that could be posed by the mine to golden eagles is described below.

Table 3 Summary of Impacts to Eagles

Eagle Impact	Phoenix Impacts
Direct take (mortality)	None anticipated, low risk: **Sections 5.2**, **5.3**, and **5.4**
Indirect take (loss of productivity from disturbance)	**Section 4.0**: Two golden eagle breeding pairs' territories
Habitat loss	**Section 5.1**
Territory loss (number of territories)	**Section 4.0**: Two golden eagle breeding pairs' territories
Nest removal (number of nests for each territory involved)	None

5.1 Habitat-Related Risks

Phoenix is approved for surface disturbance of up to 11,871 acres. Reduction of habitat as a result of direct mining disturbance has the potential to impact golden eagles. Specifically, impacts to functional shrublands that support jackrabbit populations could influence prey availability to golden eagles, especially during the breeding season when adults are foraging routinely to provide adequate food for their young. Loss of suitable habitat within golden eagle home ranges may result in reduced prey base and foraging opportunities such that territory persistence and reproductive output may be negatively impacted.

5.2 Utility-Related Risks

Utility structures pose a risk to perching birds, including raptors such as golden eagles, and may cause mortality through accidental collisions and electrocutions. Larger birds that inhabit open habitat appear to be at greater risk for electrocution due to the lack of natural perches and nesting sites (APLIC & USFWS, 2005). Electrocution occurs when a bird completes an electric circuit by simultaneously touching two energized parts, or an energized part and a grounded part, of the electrical structure. Inadequate conductor and/or phase spacing may allow birds to bridge electrical parts, which results in electrocution. Birds of all sizes are at risk, especially on utility hardware such as transformers, which have many energized parts in close proximity to one another (APLIC & USFWS, 2005). Risk for avian electrocution on distribution lines increases when the distance between conductors is less than the wingspan or height of a landing or perching bird or when hardware or equipment cases are grounded and in close proximity to energized conductors, parts, or jumper wires (APLIC & USFWS, 2005).

Phoenix has committed to the following conservation measures in previously approved NEPA documents, which prevent risk of electrocution to golden eagles:

- The transmission line segment (120-kilovolt) and power line segment (13.8-kilovolt) for the Phoenix Copper Leach Project (BLM, 2012) has been designed and constructed in accordance with applicable guidelines to minimize raptor perching, nesting, electrocution, and collision potential. To minimize raptor perching and nesting, BLM-approved raptor deterring devices have been installed on horizontal cross bars. To minimize electrocution of raptor species attempting to perch on the lines, standard safe designs as outlined in *Suggested Practices for Raptor Protection on Power Lines* (APLIC, 2006) are incorporated in the Phoenix area, as applicable. To minimize collision potential for foraging raptors, standard safe designs as outlined in *Reducing Avian Collisions with Power Lines* (APLIC, 2012), formerly *Mitigating Bird Collisions with Power Lines* have been incorporated, as applicable.

- Follow the *Suggested Practices for Raptor Protection on Power Lines*, per APLIC (2006), which provides guidance on power line construction and design on all future transmission and power lines.

5.3 Process-Related Risks

Mining processes and facilities that use chemicals pose a risk to wildlife species, including golden eagles. In conjunction with the Nevada Department of Wildlife's (NDOW's) Industrial Artificial Pond Permits (IAPPs) and International Cyanide Management Code requirements, all areas that contain cyanide must be controlled to reduce or eliminate the potential for wildlife mortality and meet stringent human health and safety standards. At varying concentrations, chemicals can poison wildlife through accidental ingestion of water sources containing chemicals (i.e., process ponds) and may cause mortality.

To reduce risk of wildlife exposure to chemicals, including ponded areas, Phoenix has the following conservation measures in place. Note that these measures are required to be implemented per project approvals by the BLM:

- Protective measures associated with avian wildlife and potentially deleterious supernatant pond solutions are managed in compliance with the NDOW IAPPs issued for Phoenix. In addition, the proponent samples, analyzes, and reports analytical results associated with decant tailings solution, tailings solids, and supernatant pond fluids to the Nevada Division of Environmental Protection – Bureau of Mining Regulation and Reclamation in accordance with Phoenix Water Pollution Control Permit provisions. The sampling and analysis requirements provide a frequent examination and identification of possible deleterious supernatant pond water quality. In the event such conditions are experienced, protective avian wildlife measures would include possible water quality treatment of the supernatant pond fluids to adequately adjust pH values using chemical alkalinity additions such as hydrated lime, milk of lime, or sodium hydroxide. The addition of these chemical constituents would adjust the pH value and would result in the precipitation of trace metal hydroxides, abating potential wildlife effects associated with low pH and trace metal concentrations.

- Phoenix developed a wildlife monitoring plan to identify wildlife mortality in the Phoenix area and to report all mortalities. As part of this process, the top of the copper heap leach facility is monitored daily for any substantial pooling of process solutions. Drip emitters are used, and the heap surface is scarified to minimize ponding and pooling of the process solutions. If pooling does occur during active operations, Phoenix would: 1) reduce solution application rates, 2) re-scarify the heap leach facility surface, and 3) place netting over any ponding to prevent wildlife access.

- In order to minimize impacts to wildlife species from the exposure to precipitate in the event ponds (E-ponds), Phoenix committed to 1) installing and maintaining fencing around, and bird netting across, E-ponds to minimize wildlife access to the ponds until reclamation is complete and 2) submitting quarterly reports to the BLM and NDOW on wildlife mortalities. If wildlife mortalities are identified within or near the E-ponds, Phoenix would immediately contact NDOW, as required under the IAPPs, and the BLM to determine appropriate mitigation. Although the Record of Decision for the Phoenix Copper Leach Project (BLM, 2012) identified bird netting as a method of minimizing

wildlife access to the ponds, Phoenix (through coordination with the BLM) currently utilizes bird balls and bird netting to minimize wildlife access to the ponds.

- Eight-foot-high chain-link fencing has been installed around the process ponds (including the raffinate pond) in accordance with the NDOW IAPPs at Phoenix. Netting, pond covers, or floating bird balls, as appropriate, would be installed over ditches and ponds containing leach solutions to minimize potential impacts to winged species and other terrestrial wildlife.

- The process ponds are constructed with side slopes of 3H:1V or steeper to deter avian use of the solution. Process ponds are completely covered with high-density polyethylene, hexagonal balls (bird balls). Bird balls float on the solution surface and preclude wildlife access to the solution surface. Phoenix operators perform inspections of process ponds twice per day to review the coverage and condition of bird balls. Bird balls are replaced or added when necessary.

- The heap leach facility is managed to prevent solution ponding on top of the pad. If solution ponding occurs on the surface of the heap leach facility, efforts would be employed to eliminate the ponding or standing solution. Efforts may include, but will not be limited to, reducing or stopping solution application where ponding occurs, ripping the surface to promote infiltration, and covering ponded areas with netting to preclude avian access to the ponded solution.

- The International Cyanide Management Code recognizes a concentration of 50 parts per million as the lethal threshold for most wildlife species. The Phoenix tailings storage facility employs a dual cyanide destruction system that uses Caro's acid and ammonium bisulfite to promote cyanide destruction prior to depositing tailings in the tailings storage facility. Phoenix monitors the tailings slurry leaving the mill daily to ensure that weak acid dissociable cyanide concentrations in the tailings slurry are below 50 parts per million prior to deposition in the tailings storage facility. The tailings storage facility is further managed to minimize the size of the supernatant pool and thereby the attractiveness and risks to birds and bats. The tailings storage facility is not expected to produce invertebrates or other prey sources for birds or bats.

Because of the conservation measures in place, the potential risk to golden eagles from process-related risks is low.

5.4 Vehicle Collision–Related Risks

Mobile equipment (i.e., vehicles) used in operations at the mine or traveling to or from the mine could strike and injure or kill wildlife. Road-killed wildlife may attract scavenging eagles, which in turn could be injured or killed by vehicle collision. Because Phoenix implements the following conservation measures, the potential for eagle mortality due to vehicle collision at Phoenix is low:

- Operators have been trained to monitor the mining and process areas for the presence of larger wildlife species (e.g., deer and pronghorn antelope) as well as winged species (e.g., bats, birds, etc.) and other terrestrial wildlife. Mortality information is collected in accordance with the IAPPs. Phoenix continues to operate in accordance with established wildlife protection policies that prohibit feeding or harassment of wildlife.

- Instruct Phoenix personnel and visitors to drive at low speeds and be alert for wildlife, especially in low-visibility conditions.

Additional traffic controls can be implemented by NGM as necessary through direct communication regarding road hazards. Additionally, no eagle mortalities due to vehicle collision have been reported at Phoenix.

6.0 AVOIDANCE AND MINIMIZATION MEASURES

Phoenix currently employs avoidance and minimization measures associated with the authorized Plan that have been committed to during previous NEPA permitting. Avoidance and minimization measures specific to golden eagles and implemented at Phoenix are listed below in **Table 4**.

Table 4 Authorized Avoidance and Minimization Measures

Number	Avoidance and Minimization Measure	Source(s)
CM-1	Protective measures associated with avian wildlife and potentially deleterious supernatant pond solutions are managed in compliance with the NDOW IAPPs issued for Phoenix. In addition, the proponent samples, analyzes, and reports analytical results associated with decant tailings solution, tailings solids, and supernatant pond fluids to the Nevada Division of Environmental Protection – Bureau of Mining Regulation and Reclamation in accordance with Phoenix Water Pollution Control Permit provisions. This periodic sampling and analysis in conjunction with daily operational analysis associated with tailings supernatant pond make-up water additional to Phoenix milling process, and the operational analysis of tailings discharge water quality provides a frequent examination and identification of possible deleterious supernatant pond water quality. In the event such conditions are experienced, protective avian wildlife measures would include possible water quality treatment of the supernatant pond fluids to adequately adjust pH values using chemical alkalinity additions such as hydrated lime, milk of lime, or sodium hydroxide. The addition of these chemical constituents would adjust the pH value and would result in the precipitation of trace metal hydroxides, abating potential wildlife effects associated with low pH and trace metal concentrations.	BLM, 2003
CM-2	Operators have been trained to monitor the mining and process areas for the presence of larger wildlife species (e.g., deer and pronghorn antelope) as well as winged species (e.g., bats, birds, etc.) and other terrestrial wildlife. Mortality information is collected in accordance with the IAPPs. NGM continues to operate in accordance with established wildlife protection policies that prohibit feeding or harassment of wildlife.	BLM, 2012
CM-3	NGM developed a wildlife monitoring plan to identify wildlife mortality in the Phoenix area and to report all mortalities. As part of this process, the top of the copper heap leach facility is monitored daily for any substantial pooling of process solutions. Drip emitters are used, and the heap surface is scarified to minimize ponding and pooling of the process solutions. If pooling does occur during active operations, NGM would 1) reduce solution application rates, 2) re-scarify the heap leach facility surface, and 3) place netting over any ponding to prevent wildlife access.	BLM, 2003; updated BLM, 2012
CM-4	In order to minimize impacts to wildlife species from the exposure to precipitate in the E-ponds, NGM committed to 1) installing and maintaining fencing around, and bird netting across, E-ponds to minimize wildlife access to the ponds until reclamation is complete and 2) submitting quarterly reports to the BLM and NDOW on wildlife mortalities. If wildlife mortalities are identified within or near the E-ponds, Phoenix would immediately contact NDOW, as required under the IAPPs, and the BLM to determine appropriate mitigation. Although the Record of Decision for the Phoenix Copper Leach Project (BLM, 2012) identified bird netting as a method of minimizing wildlife access to the ponds, NGM (through coordination with the BLM) currently utilizes bird balls and bird netting to minimize wildlife access to the ponds.	BLM, 2012
CM-5	Eight-foot-high chain-link fencing has been installed around the process ponds (including the raffinate pond) in accordance with the NDOW IAPPs at Phoenix. Netting, pond covers, or floating bird balls, as appropriate, would be installed over ditches and ponds containing leach solutions to minimize potential impacts to winged species and other terrestrial wildlife.	BLM, 2012

Number	Avoidance and Minimization Measure	Source(s)
CM-6	The transmission line segment (120-kilovolt) and power line segment (13.8-kilovolt) for the Phoenix Copper Leach Project (BLM, 2012) has been designed and constructed in accordance with applicable guidelines to minimize raptor perching, nesting, electrocution, and collision potential. To minimize raptor perching and nesting, BLM-approved raptor deterring devices have been installed on horizontal cross bars. To minimize electrocution of raptor species attempting to perch on the lines, standard safe designs as outlined in *Suggested Practices for Raptor Protection on Power Lines* (APLIC, 2006) are incorporated in the Phoenix area, as applicable. To minimize collision potential for foraging raptors, standard safe designs as outlined in *Mitigating Bird Collisions with Power Lines* have been incorporated, as applicable.	BLM, 2012
CM-7	To comply with the Migratory Bird Treaty Act, no new surface disturbance would occur during the migratory bird breeding season (March 1 through July 31 for raptors and April 1 through July 31 for other avian species). If surface-disturbing activities are unavoidable during the migratory bird breeding season, a nest survey would be conducted by a BLM-approved, qualified avian biologist prior to any surface-disturbing activities in order to avoid potential impacts to breeding migratory birds. Pre-disturbance surveys for migratory birds are only valid for 14 days. If the disturbance for the specific location does not occur within 14 days of the survey, another survey would be conducted. If active nests or burrows are located around the Project area or if other evidence of nesting (i.e., mated pairs, territorial defense, carrying nest material, transporting food) is observed, a protective buffer (the size depending on the habitat requirements of the species) would be delineated and the buffer area avoided to prevent destruction or disturbance to nests or birds until they are no longer actively breeding or rearing young. The site characteristics to be used to determine the size of the buffer area are 1) topographic screening, 2) distance from disturbance to nest, 3) the size and quality of foraging habitat surrounding the nest, 4) sensitivity of the species to nest disturbances, and 5) the protection status of the species.	BLM, 2012; updated BLM, 2018
CM-8	In the event avian or bat/building collisions are determined to be of concern, perch deterrents would be used on ledges, rooftops, and other areas. Such deterrents could limit the attractiveness of these facilities to avian and bat species and reduce the potential for collisions.	BLM, 2018
CM-9	Any new power line poles would be constructed with avian deterrent devices or methods. Some poles may require the use of guy wires for stability purposes. The guy wires and static line are generally the smallest-diameter wires and therefore would be the most likely to be involved with avian collisions. All new guy wires that are required for power poles within the Plan boundary will be marked to prevent avian and bat collisions.	BLM, 2018
CM-10	The process ponds are constructed with side slopes of 3H:1V or steeper to deter avian use of the solution. Process ponds are completely covered with high-density polyethylene, hexagonal balls (bird balls). Bird balls float on the solution surface and preclude wildlife access to the solution surface. Phoenix operators perform inspections of process ponds twice per day to review the coverage and condition of bird balls. Bird balls are replaced or added when necessary. The heap leach facility is managed to prevent solution ponding on top of the pad. If solution ponding occurs on the surface of the heap leach facility, efforts would be employed to eliminate the ponding or standing solution. Efforts may include, but will not be limited to, reducing or stopping solution application where ponding occurs, ripping the surface to promote infiltration, and covering ponded areas with netting to preclude avian access to the ponded solution.	BLM, 2018
CM-11	The International Cyanide Management Code recognizes a concentration of 50 parts per million as the lethal threshold for most wildlife species. The Phoenix tailings storage facility employs a dual cyanide destruction system that uses Caro's acid and ammonium bisulfite to promote cyanide destruction prior to depositing tailings in the tailings storage facility. NGM monitors the tailings slurry leaving the mill daily to ensure that weak acid dissociable cyanide concentrations in the tailings slurry are below 50 parts per million prior to deposition in the tailings storage facility. The tailings storage facility is further managed to minimize the size of the supernatant pool and thereby the attractiveness and risks to birds and bats. The tailings storage facility is not expected to produce invertebrates or other prey sources for birds or bats.	BLM, 2018

Number	Avoidance and Minimization Measure	Source(s)
CM-12	Follow the *Suggested Practices for Raptor Protection on Power Lines*, per APLIC (2006), which provides guidance on power line construction and design on all future transmission and power lines.	BLM, 2018
CM-13	Avoid construction designs (including structures such as meteorological towers) that increase the risk of collision, such as guy wires. If guy wires are used, mark them with bird flight diverters (according to the manufacturer's recommendation).	BLM, 2018
CM-14	Instruct Phoenix personnel and visitors to drive at low speeds and be alert for wildlife, especially in low-visibility conditions.	BLM, 2018
CM-15	Where necessary (as determined by mortality records) and practicable, retrofit problem structures to reduce avian injury/mortality and coordinate efforts with the BLM and NDOW.	BLM, 2018

7.0 MONITORING AND ADAPTIVE MANAGEMENT

Golden eagle surveys have been conducted in the vicinity of the Plan boundary since 2012. Recent inventory and monitoring efforts follow Pagel et al. (2010), which is the standard golden eagle survey protocol accepted by the USFWS. Surveys focus on completing a thorough inventory of nests within the recommended Project survey area and capturing information regarding nest site occupancy, breeding effort, productivity, and success.

In addition, the Phoenix Mine Project will implement the below Environmental Protection Measures:

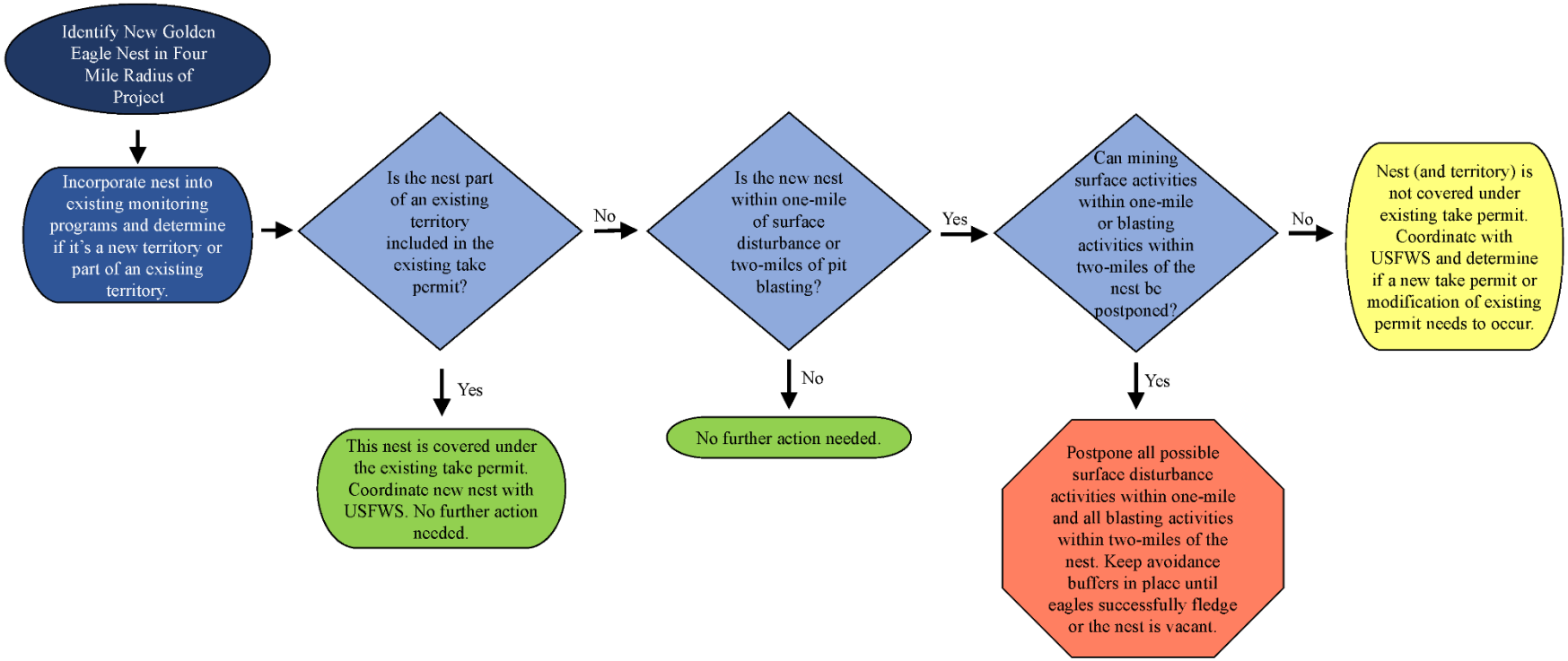
> **EPM-1**: In compliance with the most recent USFWS golden eagle survey recommendations in Nevada, initial early-season occupancy surveys (ground-based or aerial-based) will be conducted within a four-mile buffer of the Phoenix Mine Project boundary in January to mid-March (i.e., the preferred survey window) to assess golden eagle territory occupancy and document in-use nests, as appropriate. Every attempt will be made to conduct these surveys by mid- to late February. NGM will coordinate with the USFWS prior to the initial early-season occupancy surveys to communicate existing conditions on the ground (e.g., heavy snow, access concerns, golden eagle disturbance, etc.). This communication will allow for flexibility in the monitoring requirements based on conditions at the site during the preferred survey window. NGM will coordinate with the USFWS and the BLM to discuss monitoring as the season progresses and assess if monitoring requirements need to be modified based on site conditions, access concerns, or potential disturbance to nesting golden eagles. Follow-up aerial-based occupancy surveys following Pagel et al. (2010) will be conducted within a four-mile buffer of the Phoenix Mine Project Plan boundary at least 30 days following initial early-season occupancy surveys (ideally in March to mid-April) and will focus on assessing territory occupancy in areas not confirmed during the initial survey, assessing all suitable nesting habitat to identify previously undocumented nests, and assessing nest and territory occupancy status of all golden eagle nests and nests of other cliff-nesting raptor species. Final late-nestling productivity surveys (aerial or ground-based) will occur generally late May through June to assess golden eagle breeding success/productivity at nests identified as in use during the initial and follow-up surveys at the time when golden eagles are expected to have late-stage nestlings (i.e., breeding attempts considered successful when one or more nestling reaches greater than 51 days old).

> **EPM-2**: If new nests are identified within one mile of disturbance or two miles of blasting that are outside a territory with a valid take permit, NGM will inform and coordinate with the USFWS and the BLM regarding these nest sites. Nests are considered in use for a given breeding season (i.e., December 15 through July 31) until they are confirmed to not be in use on April 15 or later. In the absence of a take permit, spatial disturbance buffers (i.e., one mile of surface disturbance and two miles of blasting) will be adhered to until nests are confirmed to be not in use by April 15 or later, four weeks after nestlings fledge if monitoring confirms approximate fledging date, or after July 31 if they are in use and not otherwise monitored to verify fledging date.

For adaptive management purposes, verification of implemented avoidance and minimization measures as provided in **Section 6.0** is necessary. Phoenix currently has a monitoring and reporting system for incidents related to wildlife fatality as part of the wildlife management plan and IAPPs, as required by NDOW. Any incident that results in wildlife fatality or death, including golden eagles, must be reported.

Monitoring the Project area golden eagle population for additional golden eagle nests will occur concurrently with existing and future required survey efforts as part of potential authorized construction or disturbance actions. During the life of the mine, Phoenix recognizes the possibility for new construction of golden eagle nests within the Plan boundary. If a previously undocumented nest is identified, Phoenix will implement the decision tree as shown below. This decision tree is applicable to scenarios where a new nest is encountered, and potential indirect disturbance could occur. However, this decision tree is not applicable in scenarios where nest removal is necessary. During the Phoenix mine life, it is possible that golden eagles will build new nests in unforeseeable locations in the area. The decision tree has been created to guide Phoenix on how to appropriately deal with these new nests. The decision tree shows the process for monitoring, avoiding, and coordinating activities in proximity to any new golden eagle nests. The Project would not take any golden eagle nest, either by physically removing a nest or indirectly, without legally obtaining golden eagle take permits from the USFWS.

Eagle Nest Decision Tree



8.0 COMPENSATORY MITIGATION

The eagle conservation measures presented within this ECP include a comprehensive description of measures NGM is implementing to avoid and minimize impacts from Project design, operation, and construction on eagles. Mitigation, in the form of funds to be used for power pole retrofits, will offset impacts and contribute to the preservation of golden eagles associated with the loss of productivity from disturbance for two territories.

Compensatory mitigation to fully offset authorized take would be conducted within the Pacific Flyway Eagle Management Unit (EMU). The Applicant would provide the compensatory mitigation at the required 1.2:1 ratio by retrofitting electric utility poles, as discussed in the 2016 USFWS Programmatic Environmental Impact Statement (USFWS, 2016). The intent would be to minimize the potential for eagle electrocutions and ensure that the effects of eagle incidental take are offset at the population level. NGM will utilize a USFWS-approved mitigation program, such as, but not limited to, the Bald Eagle and Golden Eagle Electrocution Prevention In-Lieu Fee Program (In-Lieu Fee Program), for electric pole retrofits to offset the potential loss of productivity in two golden eagle territories resulting from approved Project activities.

Potential disturbance from authorized activities within proximity to the two golden eagle territories is unavoidable due to the location of the ore bodies that occur within proximity to nests within each territory and the economic factors that contribute to the profitable extraction of the minerals contained therein. Mitigation will not be required for nesting seasons in which there is no blasting within two miles or mining-related activities within one mile of the nests in the territories covered by the take permit or if monitoring shows there was a successful nesting attempt (i.e., fledged one or more young) in the territories covered by the permit. Priority will be requested for retrofitting opportunities within Nevada and/or the Great Basin. However, if opportunities are not available in these areas, mitigation credits will be used to retrofit poles anywhere within the EMU at the discretion of the In-Lieu Fee Program entity administering the mitigation. Once NGM has purchased the credits, the In-Lieu Fee Program entity administering the mitigation will be responsible for coordinating and implementing the retrofits; however, NGM will be responsible for purchasing additional credits if there are discrepancies between the initial purchased amount and actual costs incurred for the retrofits.

Long-term eagle incidental take permits require the Service to conduct five-year reviews. Based on the results of monitoring described in **Section 7.0** for the Project, during the five-year review process, the Service would evaluate if take occurred for each known breeding territory described in **Table 2** as subject to possible disturbance in each year. For example, should nest disturbance occur within one mile of a golden eagle nest or two miles of blasting during the courtship phase or egg-laying period of the breeding season (December 15–April 15), the Service would assume NGM's activities prevented eagles from breeding and that a take incident occurred. If NGM's data validate that no disturbance occurred within one or two miles of a breeding pair's nest site until after April 15 in a given year and monitoring confirms nests are not in use, NGM could proceed with its activities, and the Service would determine no take occurred. The Service would consider use of alternate nests within a given territory when evaluating whether take occurred as a result of NGM's mine-related activities. After assessing how many take incidents occurred during the first five years, the Service would then evaluate how much compensatory mitigation might be either credited or owed for each successive five-year period remaining within the permit duration for the Project.

The permit for the Phoenix Mine would require mitigation for the annual disturbance take of two breeding pairs for up to 30 years at the Phoenix Mine. The amount of compensatory mitigation required for 30 years of lost productivity has been determined through the Service's Golden Eagle Resource Equivalency Analysis (REA). NGM must commit to mitigate the first five years of take at the time of permit issuance. At each five-year check-in, data collected during the previous five years will be used to determine if further compensatory mitigation will be required in the following five years. Unless monitoring indicates reduced impacts to breeding golden eagles, for the first five years NGM would contribute compensatory mitigation in an amount equal to the power pole retrofit of one of the following or a combination of both:

- 222.21 poles (avoided loss from retrofits maintained and effective for 10 years); or
- 96.71 poles (avoided loss from retrofits maintained and effective for 30 years).

Within 30 days from the issuance of the take permit, NGM will make a payment to the same USFWS-specified account for the total retrofit obligation to offset disturbance take associated with an average of 2.36 takes per year for the first five years. The monetary value of each pole will be determined through coordination with the USFWS prior to NGM depositing the funds into the specified account. The number of poles for the first five years is 97 (the value of 96.71 from the USFWS REA was rounded up), which assumes retrofitting for 30 years of avoided loss and is based on the ratio of 1.2:1.

Upon completion of the USFWS five-year permit review, a determination of whether disturbance take occurred will take place. Using the results of this determination, disturbance take funds that have been paid to date will be rolled over (either in part or the full sum), or additional payment will be made to the same account, based on actual disturbance take as determined through close coordination with the USFWS and based on observed nest occupancy and productivity, as described in **Section 8.0**. Mitigation will be paid every five years, as applicable, throughout the 30-year permit period of the Project.

9.0 REFERENCES

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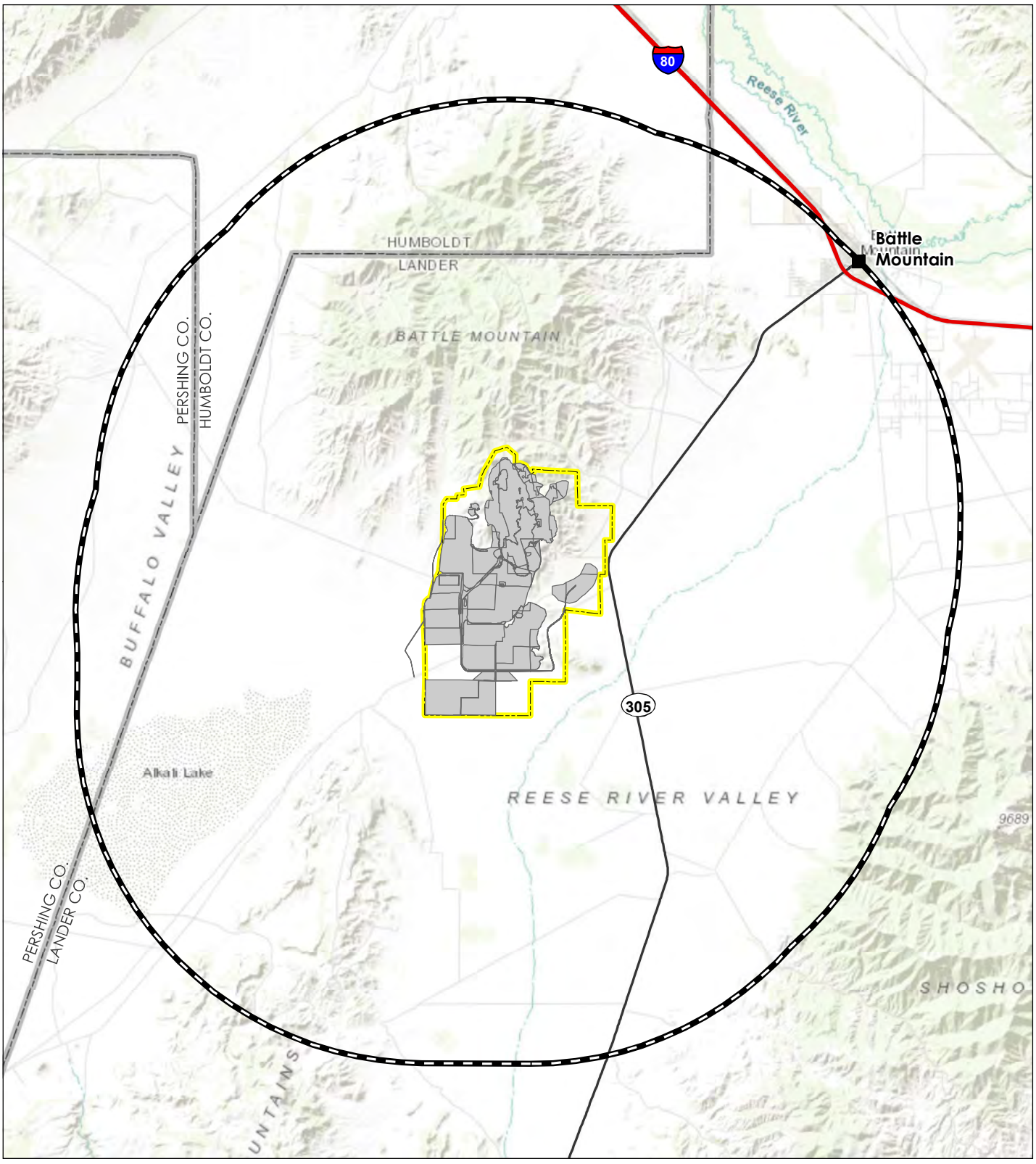
FIGURES



Legend

- Phoenix Mine Plan of Operations (Plan) Boundary
- 10-mile Radius of Plan Boundary (Study Area)
- Authorized Facilities

N

Miles

0 2 4 1 in = 4 miles

Humboldt, Lander and Pershing County, NV
NAD 1983 UTM Zone 11N

DRAWN BY: JT	1ST REVIEW: BT	2ND REVIEW: CS
DATE: 12/2/2020	PROJECT NO: 203722058	

Nevada Gold Mines LLC
Phoenix Mine
Golden Eagle Conservation Plan

Figure 1
Project Location and Study Area

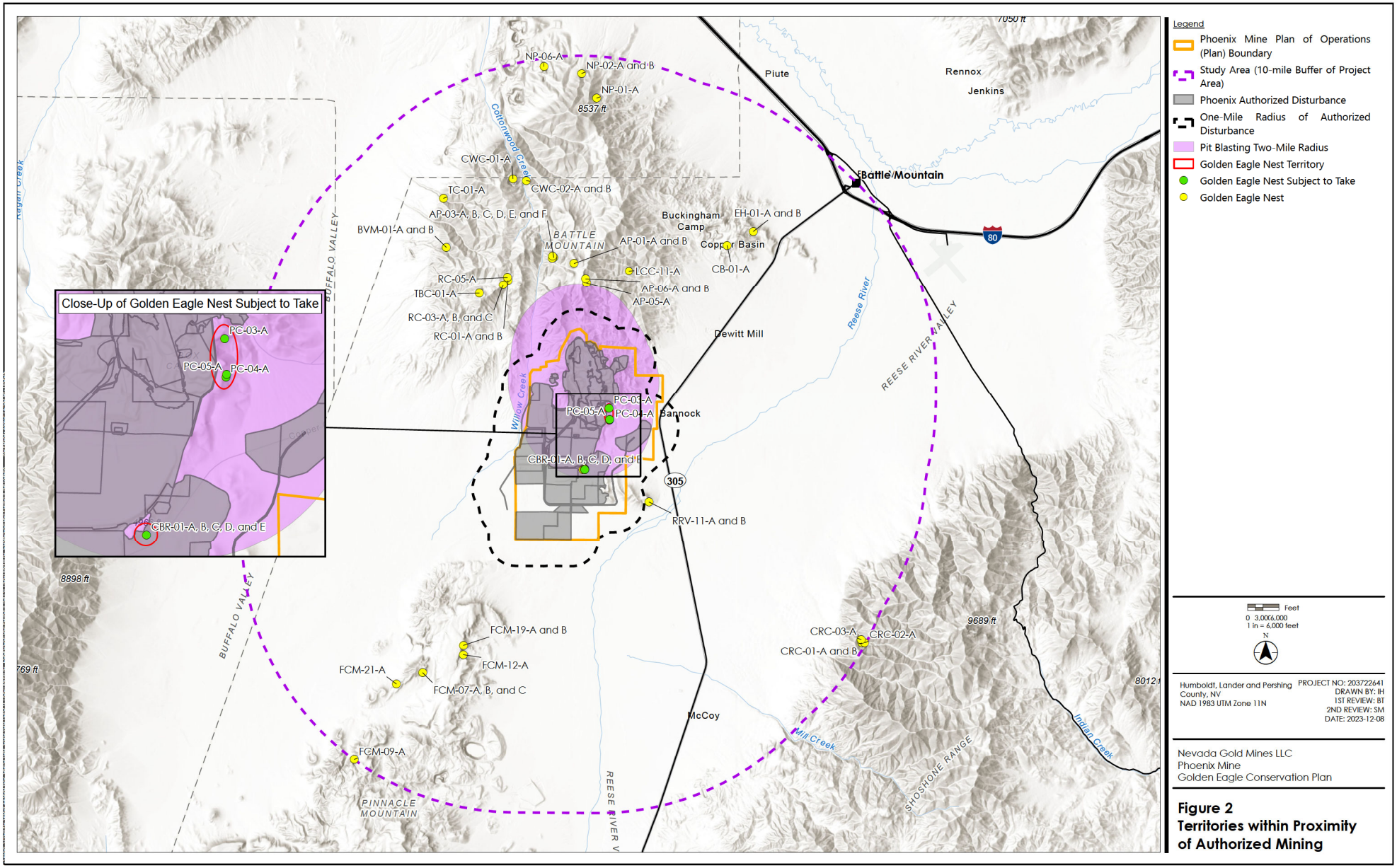
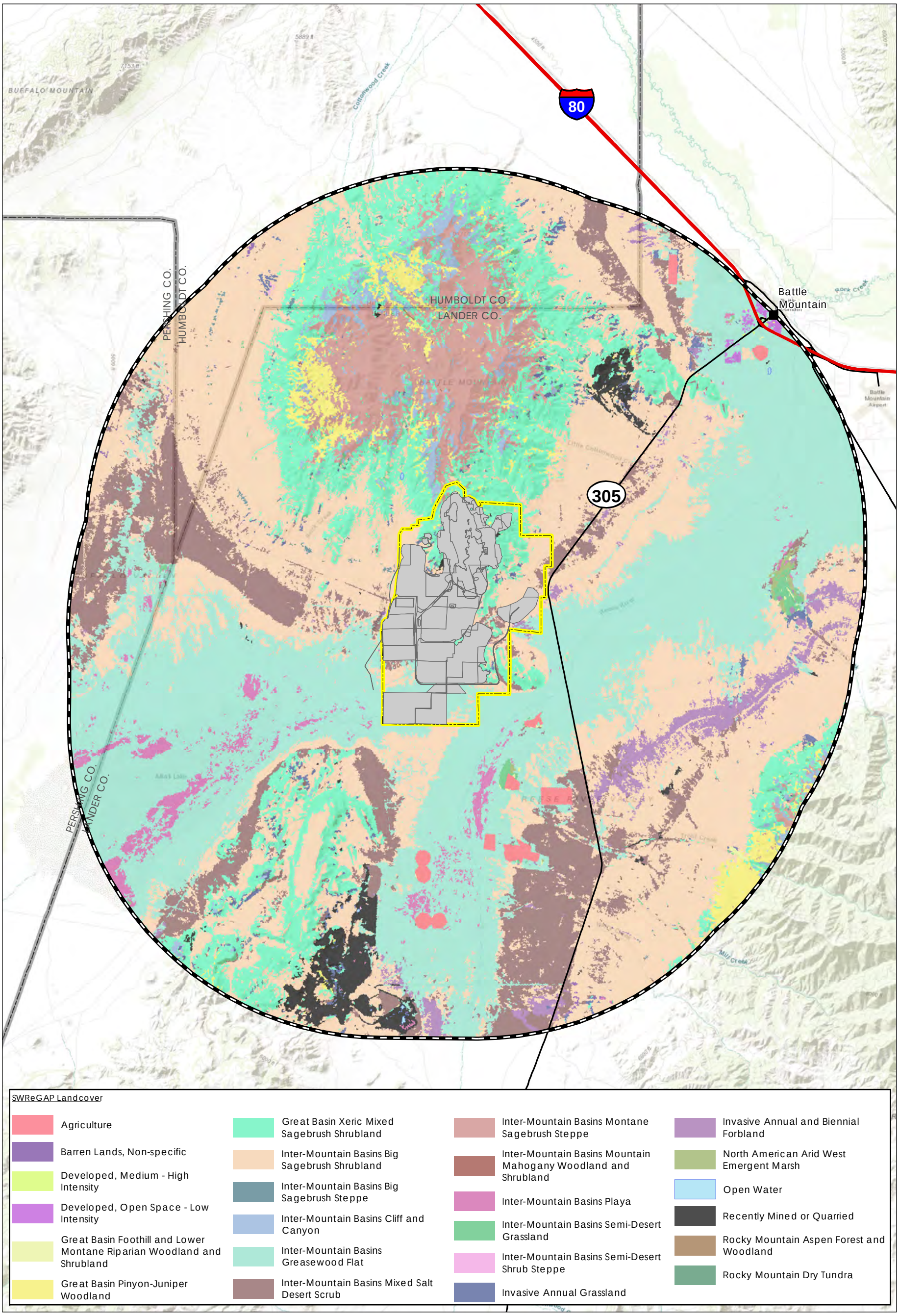


Figure 2
Territories within Proximity of Authorized Mining



Legend

- Phoenix Mine Plan of Operations (Plan) Boundary Authorized
- Facilities
- 10-mile Radius of Plan Boundary (Study Area)

N

Miles

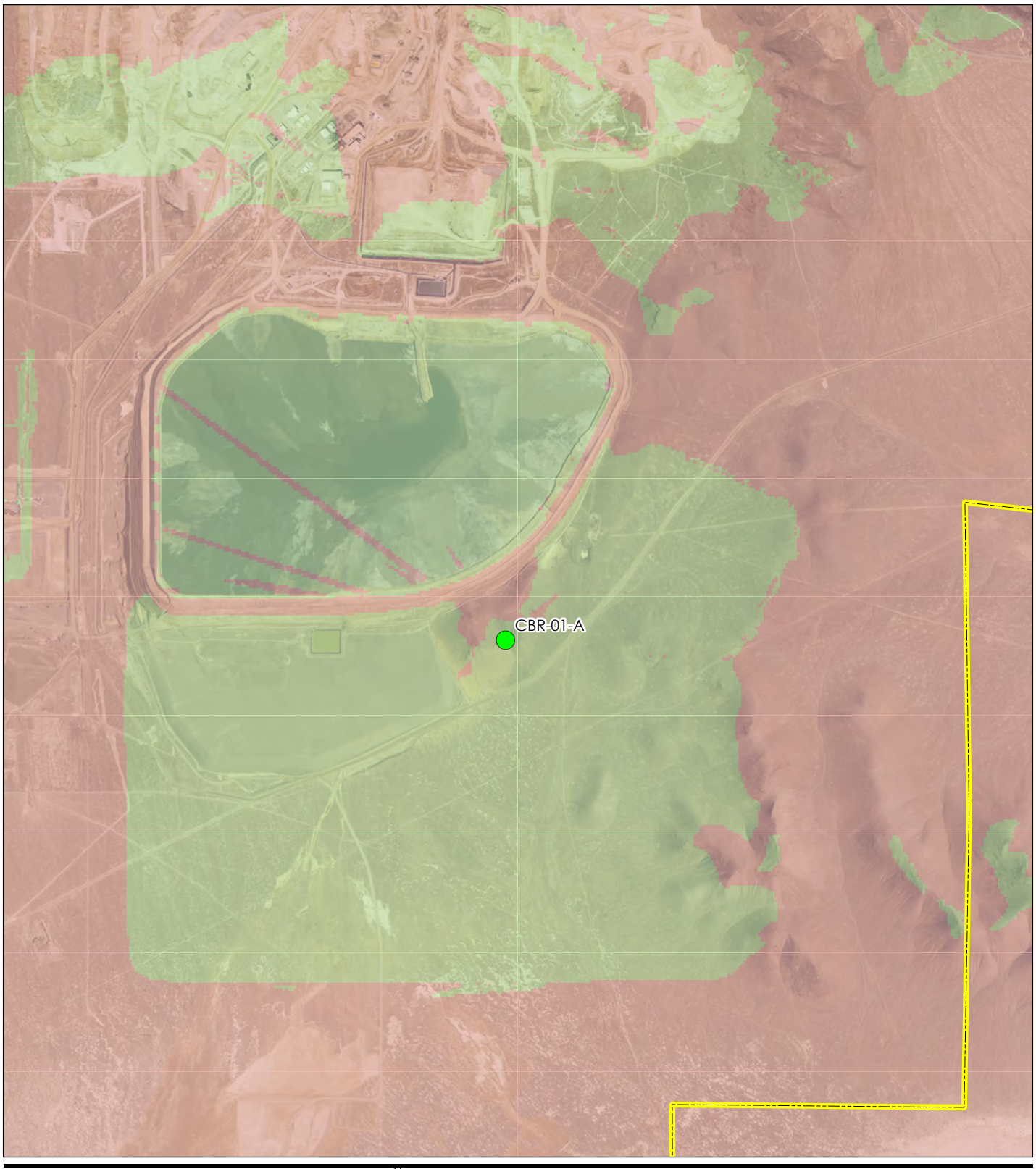
0 1.5 3 1 in = 3 miles

Humboldt, Lander and Pershing County, NV
NAD 1983 UTM Zone 11N

DRAWN BY: JT	1ST REVIEW: BT	2ND REVIEW: CS
DATE: 12/2/2020	PROJECT NO: 203722058	

Nevada Gold Mines LLC
Phoenix Mine
Golden Eagle Conservation Plan

Figure 3
Foraging Habitat
within the Study Area



Legend

- Golden Eagle Nest
- Phoenix Mine Plan of Operations (Plan) Boundary
- Not Visible
- Visible

N

Feet
0 1,000 2,000
1:30,000

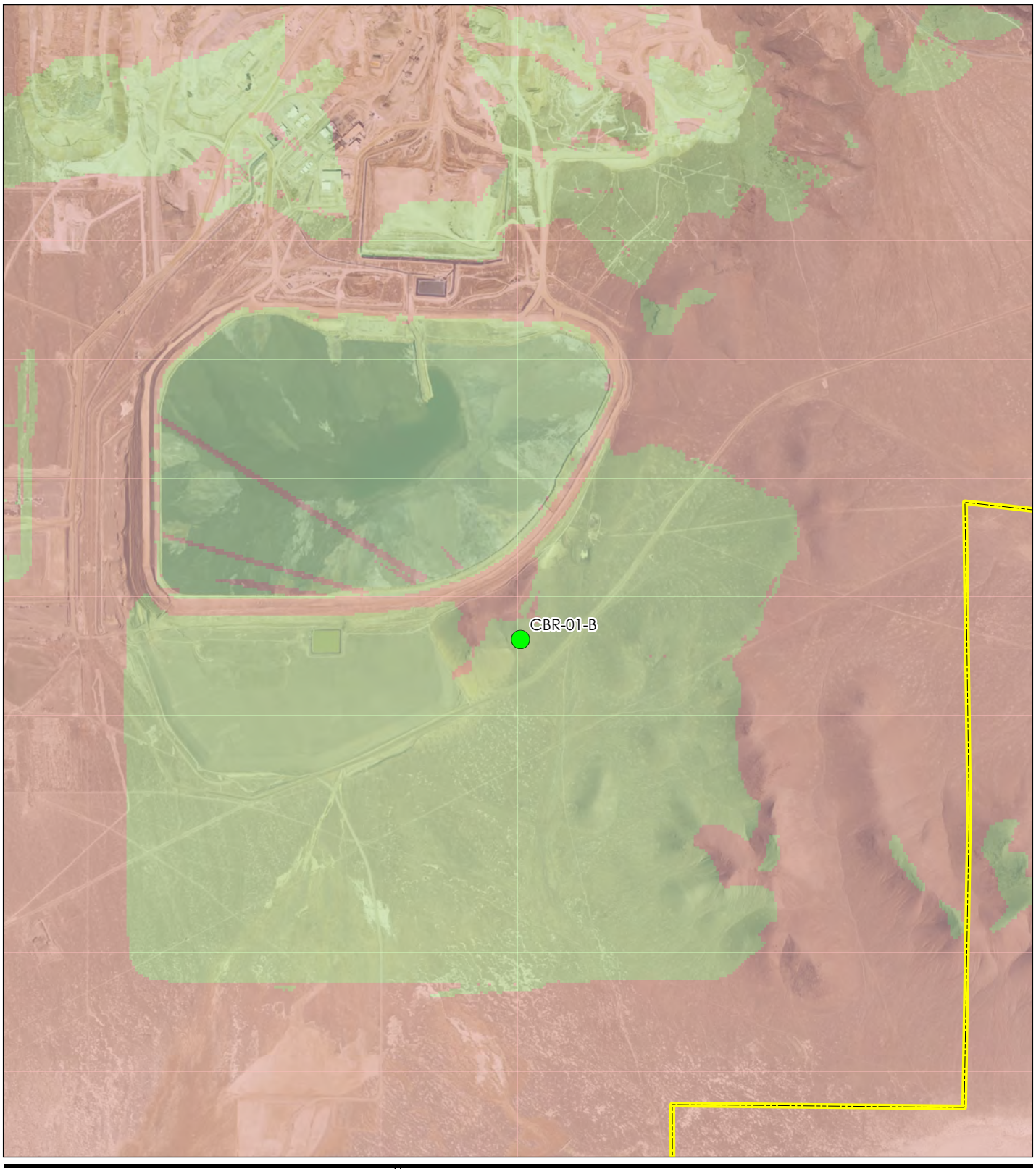
Humboldt, Lander and Pershing County, NV
NAD 1983 UTM Zone 11N

DRAWN BY: JT	1ST REVIEW: BT	2ND REVIEW: CS
DATE: 2023-07-20	PROJECT NO: 203721773	

Nevada Gold Mines LLC
Phoenix Mine
Golden Eagle Conservation Plan

Figure 4
CBR-01-A Golden Eagle Nest Viewshed Results

Service Layer Credits: USA NAIP Imagery: Natural Color: Esri, USDA Farm Service Agency



Legend

- Golden Eagle Nest
- Phoenix Mine Plan of Operations (Plan) Boundary
- Not Visible
- Visible

N

0 1,000 2,000 Feet

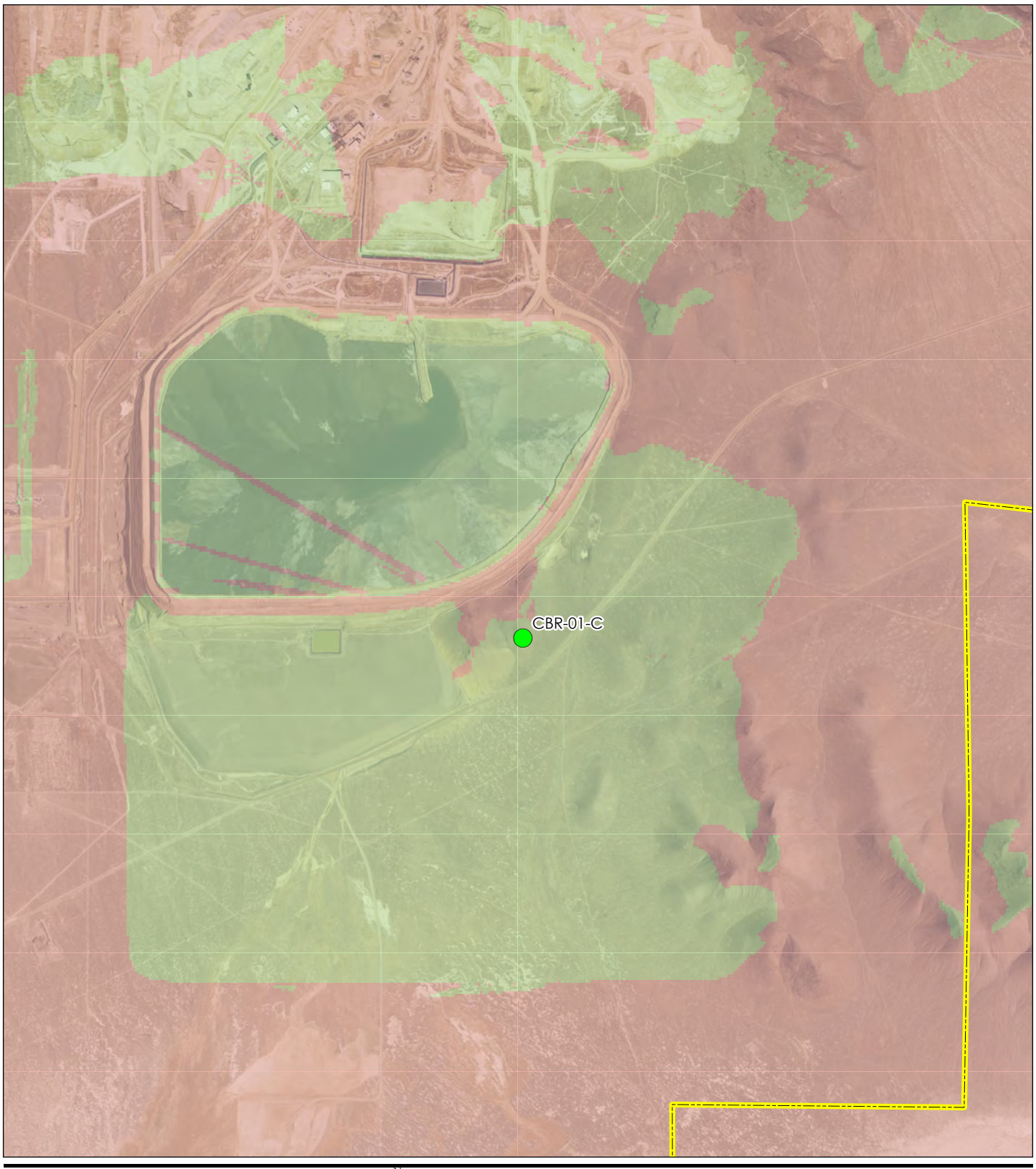
1:30,000

Humboldt, Lander and Pershing County, NV
NAD 1983 UTM Zone 11N

DRAWN BY: JT	1ST REVIEW: BT	2ND REVIEW: CS
DATE: 2023-07-20	PROJECT NO: 203721773	

Nevada Gold Mines LLC
Phoenix Mine
Golden Eagle Conservation Plan

Figure 5
CBR-01-B Golden Eagle Nest Viewshed Results



Legend

- Golden Eagle Nest
- Phoenix Mine Plan of Operations (Plan) Boundary
- Not Visible
- Visible

N

0 1,000 2,000 Feet

1:30,000

Humboldt, Lander and Pershing County, NV
NAD 1983 UTM Zone 11N

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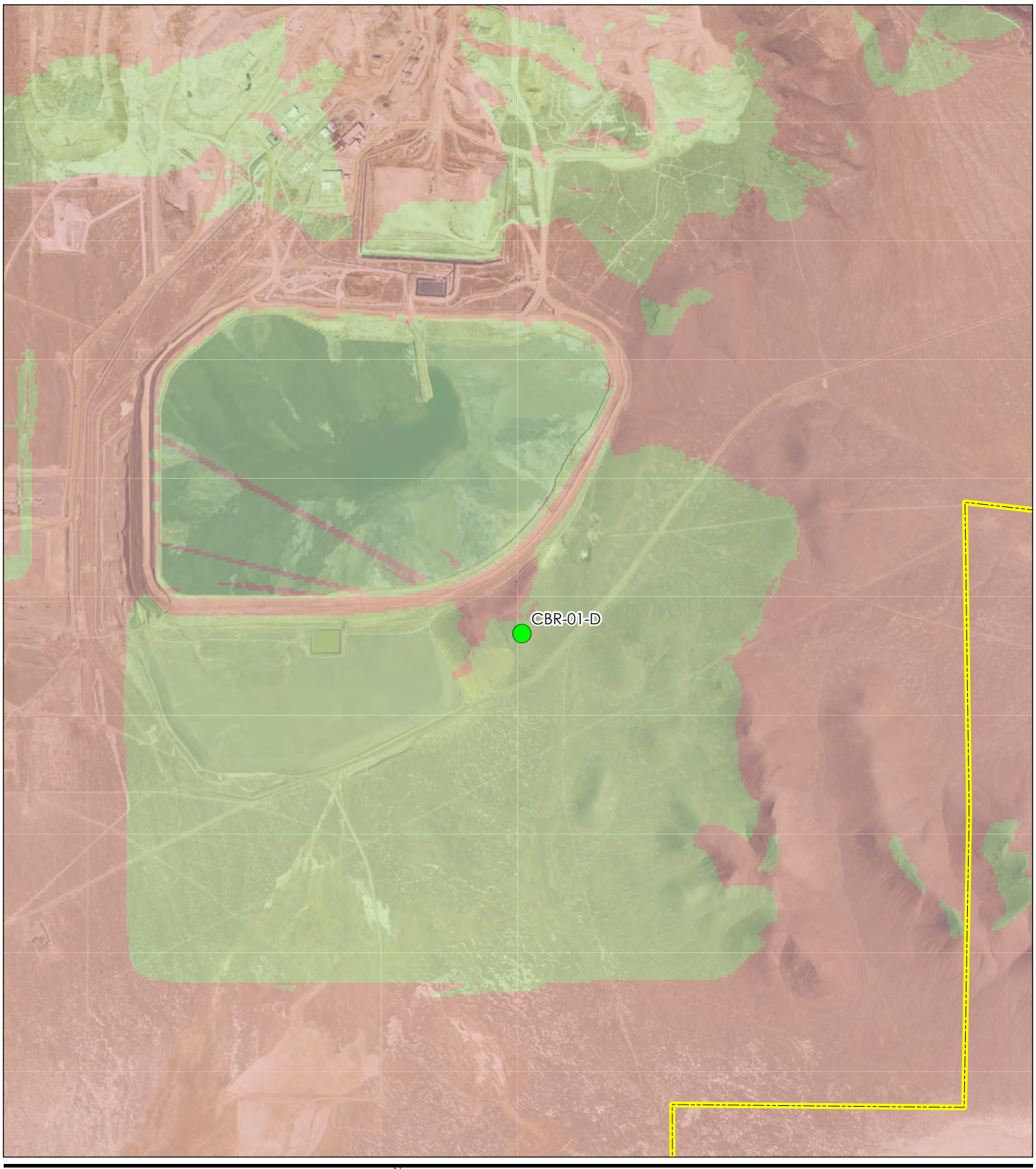
DATE: 2023-07-20	PROJECT NO: 203721773	

Nevada Gold Mines LLC
Phoenix Mine
Golden Eagle Conservation Plan

Figure 6
CBR-01-C Golden Eagle Nest Viewshed Results



Legend

- Golden Eagle Nest
- Phoenix Mine Plan of Operations (Plan) Boundary
- Not Visible
- Visible

N

Feet
0 1,000 2,000
1:30,000

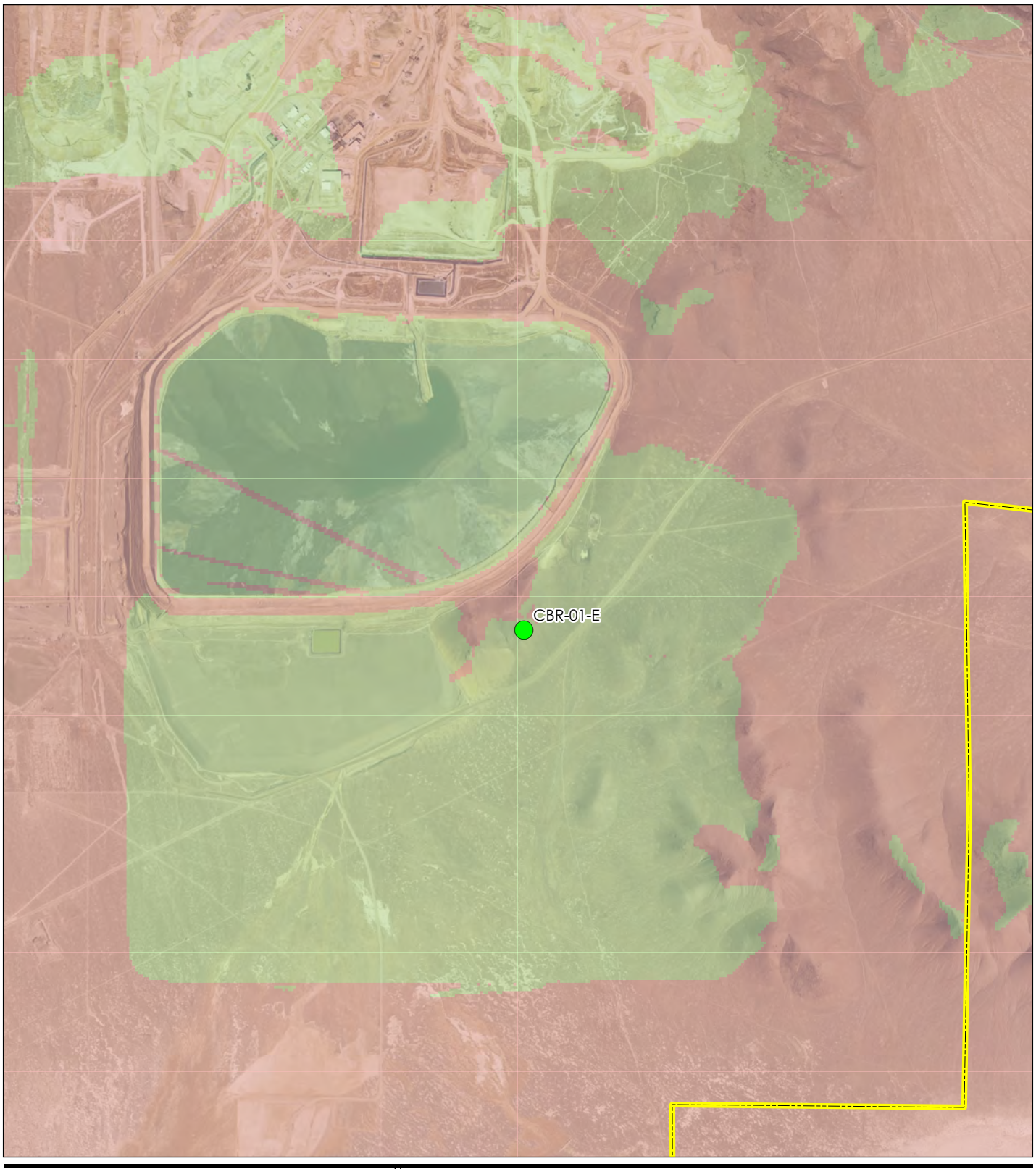
Humboldt, Lander and Pershing County, NV
NAD 1983 UTM Zone 11N

DRAWN BY: JT	1ST REVIEW: BT	2ND REVIEW: CS
DATE: 2023-07-20	PROJECT NO: 203721773	

Nevada Gold Mines LLC
Phoenix Mine
Golden Eagle Conservation Plan

Figure 7
CBR-01-D Golden Eagle Nest Viewshed Results

Service Layer Credits: USA NAIP Imagery: Natural Color: Esri, USDA Farm Service Agency



Legend

- Golden Eagle Nest
- Phoenix Mine Plan of Operations (Plan) Boundary
- Not Visible
- Visible

N

Feet
0 1,000 2,000
1:30,000

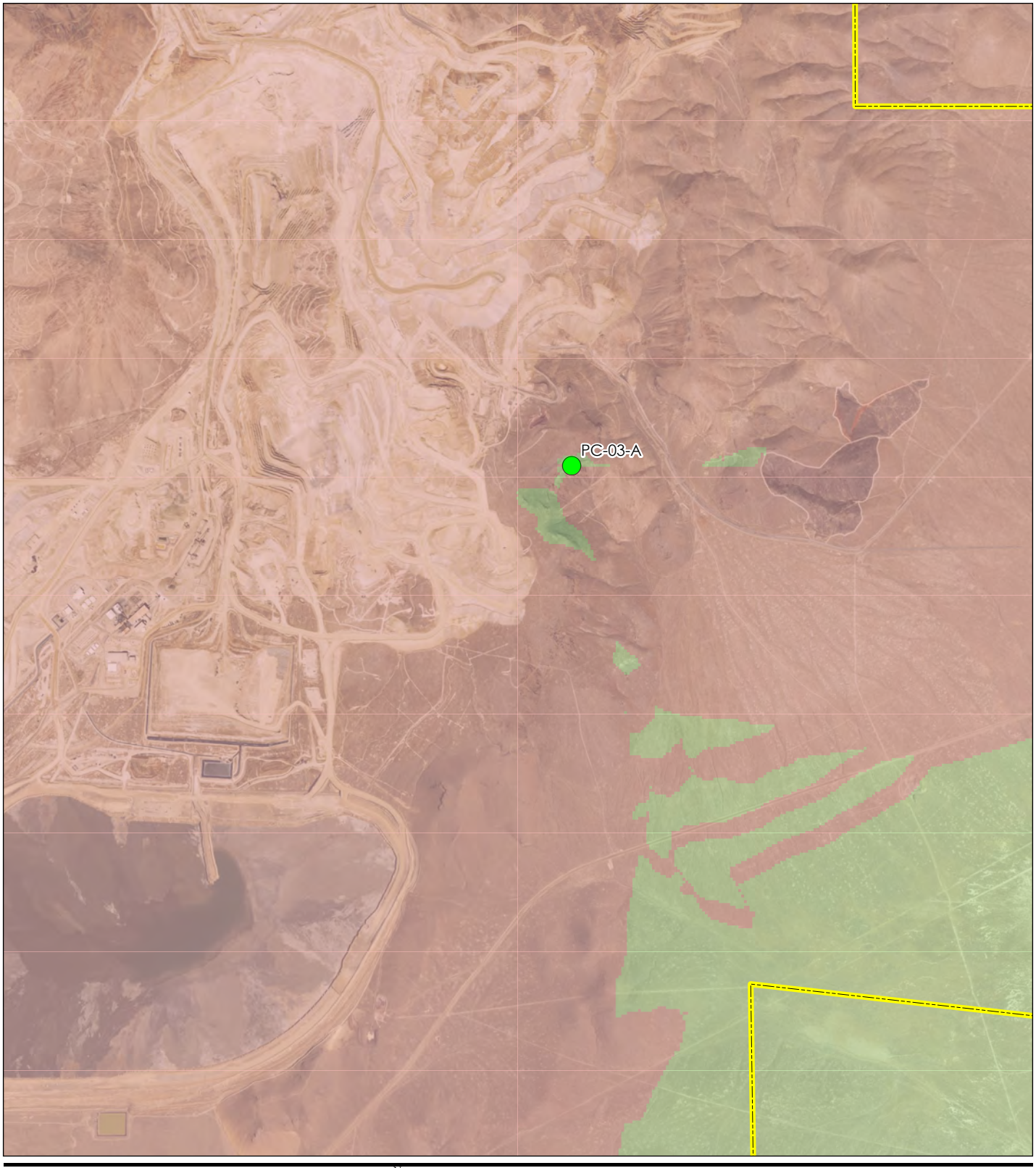
Humboldt, Lander and Pershing County, NV
NAD 1983 UTM Zone 11N

DRAWN BY: JT	1ST REVIEW: BT	2ND REVIEW: CS
DATE: 2023-07-20	PROJECT NO: 203721773	

Nevada Gold Mines LLC
Phoenix Mine
Golden Eagle Conservation Plan

Figure 8
CBR-01-E Golden Eagle Nest Viewshed Results

Service Layer Credits: USA NAIP Imagery: Natural Color: Esri, USDA Farm Service Agency



Legend

- Golden Eagle Nest
- Phoenix Mine Plan of Operations (Plan) Boundary
- Not Visible
- Visible

N

Feet
0 1,000 2,000
1:30,000

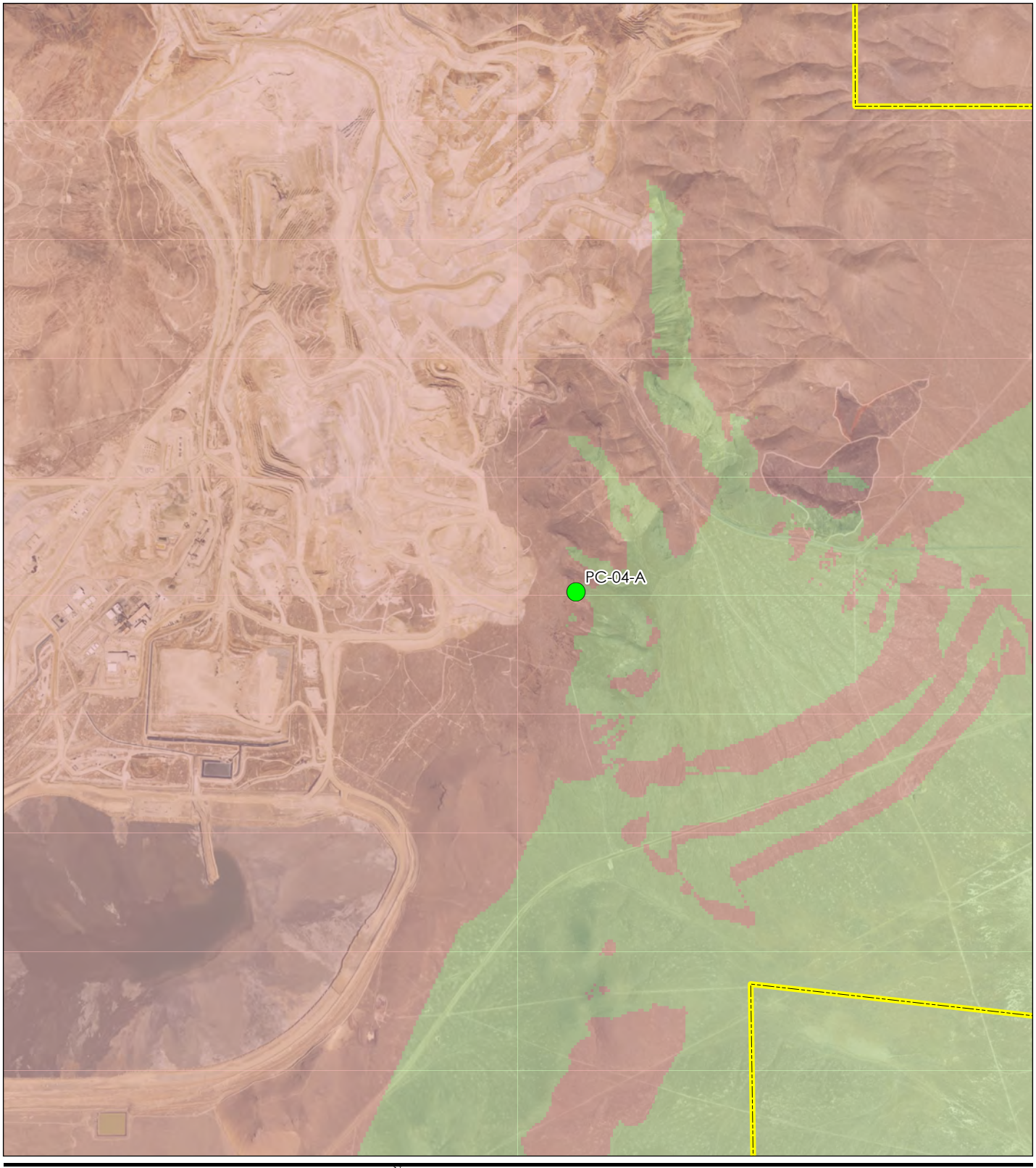
Humboldt, Lander and Pershing County, NV
NAD 1983 UTM Zone 11N

DRAWN BY: JT	1ST REVIEW: BT	2ND REVIEW: CS
DATE: 2023-07-20	PROJECT NO: 203721773	

Nevada Gold Mines LLC
Phoenix Mine
Golden Eagle Conservation Plan

Figure 9
PC-03-A Golden Eagle Nest Viewshed Results

Service Layer Credits: USA NAIP Imagery: Natural Color: Esri, USDA Farm Service Agency



Legend

- Golden Eagle Nest
- Phoenix Mine Plan of Operations (Plan) Boundary
- Not Visible
- Visible

N

Feet
0 1,000 2,000
1:30,000

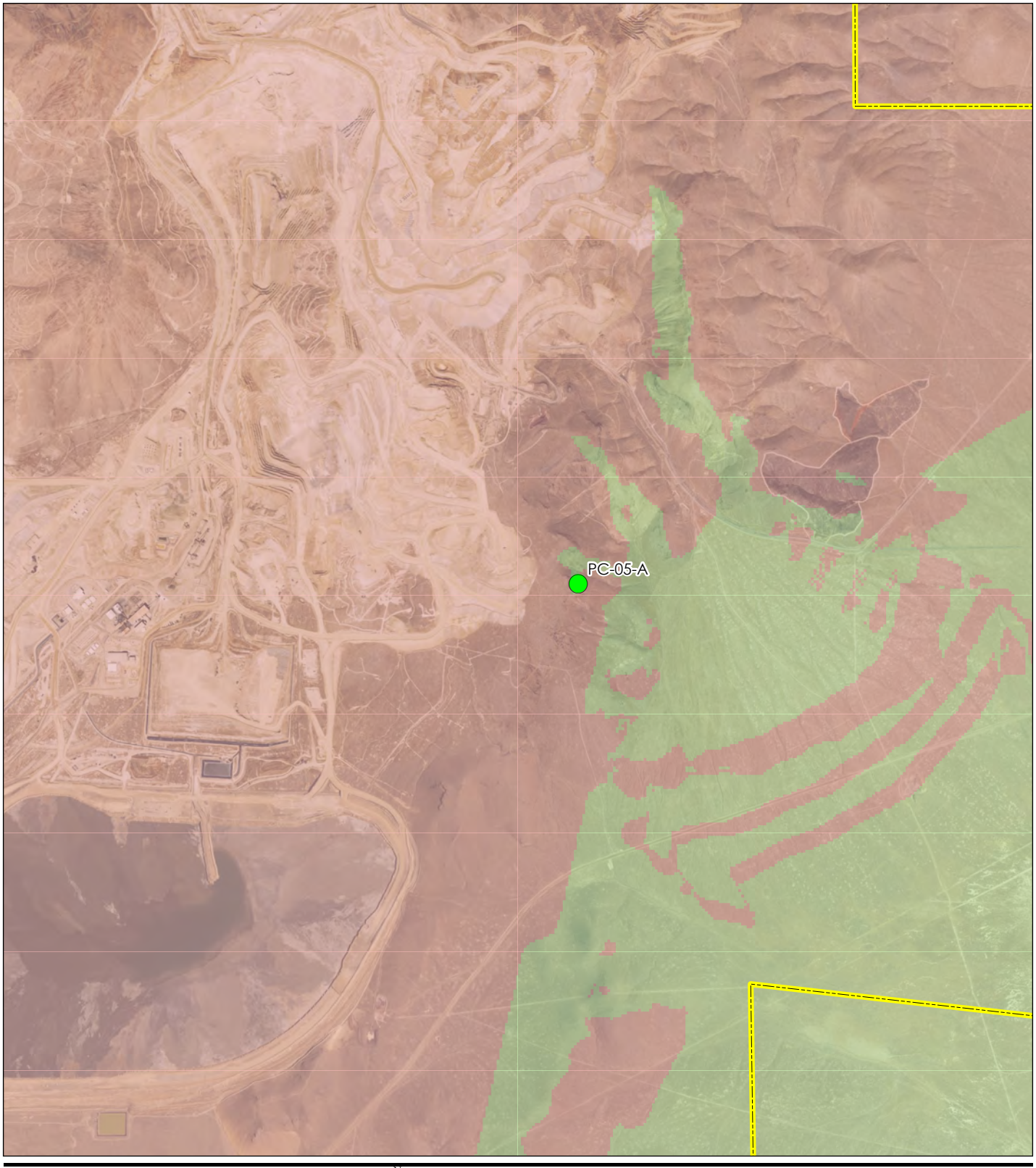
Humboldt, Lander and Pershing County, NV
NAD 1983 UTM Zone 11N

DRAWN BY: JT	1ST REVIEW: BT	2ND REVIEW: CS
DATE: 2023-07-20	PROJECT NO: 203721773	

Nevada Gold Mines LLC
Phoenix Mine
Golden Eagle Conservation Plan

Figure 10
PC-04-A Golden Eagle Nest Viewshed Results

Service Layer Credits: USA NAIP Imagery: Natural Color: Esri, USDA Farm Service Agency



Legend

- Golden Eagle Nest
- Phoenix Mine Plan of Operations (Plan) Boundary
- Not Visible
- Visible

N

Feet
0 1,000 2,000
1:30,000

Humboldt, Lander and Pershing County, NV
NAD 1983 UTM Zone 11N

DRAWN BY: JT	1ST REVIEW: BT	2ND REVIEW: CS
DATE: 2023-07-20	PROJECT NO: 203721773	

Nevada Gold Mines LLC
Phoenix Mine
Golden Eagle Conservation Plan

Figure 11
PC-05-A Golden Eagle Nest Viewshed Results

Service Layer Credits: USA NAIP Imagery: Natural Color: Esri, USDA Farm Service Agency

APPENDIX C

Results of Golden Eagle Local Area Population Analysis for Cortez and Phoenix Mine Nest Disturbance Permit Application

logfile start
US FWS Cumulative Effects Tool
Summary Results (Golden Eagle)
run 2023-02-08 18:19:53

Focal Project: Cortez_Phoenix_Mines

Local Area Population (LAP) Estimates by Local Area Density Unit (LADU):

Cortez_Phoenix_Mines_GREAT_BASIN	787.03
Cortez_Phoenix_Mines LAP (total)	787.03
1% LAP Benchmark	7.87
5% LAP Benchmark	39.35

'Permitted' & 'Other' Projects with Overlapping LAPs:

Project 20776D	0.59	35.84%	13369.52	0.21
Project 16920D	0.59	0.78%	290.72	0
Project 16920D	0.59	1.20%	445.9	0.01
Project 76086D	0.59	31.07%	11588.85	0.18
Project 53540D	0.59	97.10%	36217.91	0.57
All Projects (total)	2.95			0.97

		Percent of LAP
		5%
Total Overlapping Take	0.97	0.12%
Focal Project Predicted Take	3.54	0.45%
Focal Project + Total Overlapping Take	**4.51**	**0.57%**

Unpermitted Take Summary			**Discovery Period**
Golden Eagle	**All Known**	**Reported Years**	2013-2022
Emaciation;Trauma	1	2014-2014	1
Electrocution	138	1993-2023	115
Shot	18	2012-2021	15
Collision/electrocution	6	2018-2022	6
Collision with vehicle	11	2002-2022	10
Trapped	1	2021-2021	1
Collision with wind turbine	6	2012-2015	5
Unknown	89	2011-2022	87
Determination pending	1	2014-2014	1
Collision	1	2021-2021	1
Other	6	2014-2022	6
Trauma	8	1994-2021	6
Poisoned (pesticide);Trauma	1	2014-2014	1
Collision with wire	4	2014-2018	4
Poisoned (lead)	1	2018-2018	1
Disease	3	2006-2017	1
Emaciation;Starvation	3	2003-2014	2
Starvation	1	2015-2015	1
Emaciation	1	2017-2017	1

Attachment 2

Response to Public Comments

Public Comment Response Table

Environmental Assessment for the Issuance of Long-Term Incidental Eagle Take Permits
Public Comment Period: December 21, 2023, to January 26, 2024

Comment Letter No.	Comment Number	Name/Entity	Comment	Response
1	1.1	Katie Fite/Wildlands Defense	Here are comments from WildLands Defense and Basin and Range Watch on the USFWS EA for the Cortez and Phoenix Mines Golden Eagle Take permits. We did not receive notification of this until January 9, 2024, yet the EA is dated December. We are submitting these comments now out of an abundance of comments and may revise them if there is more time. Nevada Gold Mines (NGM) "*seeks separate permits for each Project (i.e., Cortez Mine and Phoenix Mine) to authorize the reoccurring disturbance to and loss of annual productivity (i.e., rearing of young) for the golden eagle breeding territories in and near each Project site".* d *NGM seeks "authorization for disturbance to and loss of annual productivity from four golden eagle breeding pairs at the Cortez Mine and two breeding pairs at the Phoenix Mine, each under a separate permit authorization***".** This take would be authorized under "*separate permits for each Project (i.e., Cortez Mine and Phoenix Mine) to authorize the reoccurring disturbance to and loss of annual productivity (i.e., rearing of young) for the golden eagle breeding territories in and near each Project site. **The Applicant is requesting permits for the loss of productivity resulting in three eagles per year, or 71 eagles during the course of a 30-year permit, at the Cortez Mine and two eagles per year, or 36 eagles during the course of a 30-year permit, at the Phoenix Mine".*** *The permit for the Cortez Mine would authorize up to four incidents of disturbance take each year for 30 years, during which Project activities and past incidents of take would be evaluated at five-year intervals. Previously authorized mining and operational activities at the Phoenix Mine would cause disturbance and lost productivity of up to two golden eagle breeding territories annually for 30 years. The permit for the Phoenix Mine would authorize two incidents of disturbance take each year, during which Project activities and past incidents of take would be evaluated at five-year intervals, as described further below. Unless the Service determines the lack of eagle nesting and/or failure to fledge eagle chicks is conclusively caused by another means, any lack of nesting and/or loss of productivity would be attributed to activities at the Cortez Mine and the Phoenix Mine, respective to each permit"*	Responses to specific technical comments on the content of the EA are provided below.
1	1.2	Katie Fite/Wildlands Defense	**Overview Comments on EA** We are concerned that "take" being "mitigated" does not include mine-related mortality of adult or fledged juvenile eagles, both resident and migratory birds.	As stated in Section 4.0 of the EA, take that may result in injury or mortality of eagles is not expected, nor would it be authorized under this permit. Tables 2-3 and 2-4 provide Conservation Measures taken by each mine to reduce the potential for direct mine-related mortalities.
1	1.3	Katie Fite/Wildlands Defense	Please provide nest site and winter eagle survey data for the LAP area, and for the 10-mile radius foraging area surrounding the nests. What does this data for Golden Eagle population changes and trends over all periods for which data is available – up to 2023 data. When did these surveys begin? What are the counts for all periods of time available for the 109-mile radius LAP area at all nest sites and for the 10-mile distance? Where are nests no longer occupied?	Appendix A and B of the EA provide specifics on nest territories and survey data for Cortez Mine study and Phoenix Mine study area, respectively. LAP specifics for permitted and unauthorized take are detailed in Appendix C. Background information relating to golden eagle population size, trends, mortality is included in the USFWS 2016b reference cited in the EA. As noted in the Cortez and Phoenix ECPs (Appendix A and B), golden eagle surveys began in 2012 and 2013 respectively within the survey area of each mine.
1	1.4	Katie Fite/Wildlands Defense	USFWS claims the mines are expected to continue at their current levels – but this makes no sense since the mines are likely to incrementally expand in area and footprint. The USFWS EA also appears to minimize the current scale and impacts of the NGM mega-mines by saying there's been mining since the 1800s. When were these modern-day mega-mines established? How many expansions have there been that have been subject to NEPA analysis, what were these expansions, and what were the "baseline" eagle population numbers and trends used for NEPA analysis at each stage of expansion for which info is available. What was the number of active nests known? Which nest sites are known to already have been lost at and surrounding each mine? Does NDOW periodically collect such data?	This EA analyzes potential impacts to golden eagles associated with the Cortez Mine and Phoenix Mine proposed incidental take permits, as detailed in Section 5.0 of the EA. The disturbance associated with these projects have been previously approved by the Bureau of Land Management. If future modifications are proposed to the mines that are not included in this analysis, those modifications and associated potential impacts would be assessed through the NEPA when they are proposed. Baseline data for the two projects are provided in the EA under Section 3.0, as well as in the ECPs for each project which are included as Appendix A and Appendix B. There are no known losses of golden eagle nests at either mine from past mining activities.

Public Comment Response Table

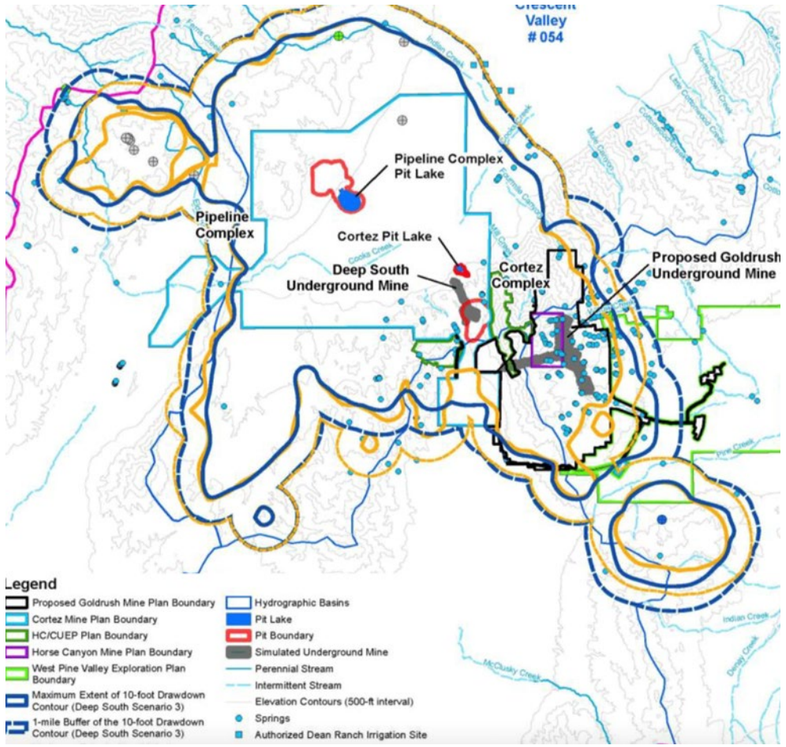
Environmental Assessment for the Issuance of Long-Term Incidental Eagle Take Permits
Public Comment Period: December 21, 2023, to January 26, 2024

Comment Letter No.	Comment Number	Name/Entity	Comment	Response
1	1.5	Katie Fite/Wildlands Defense	We are concerned that fledged juvenile and adult Golden Eagle adult mortality – from vehicle road-kills, poaching, collision with electrical wires (including the lines themselves), fences or other infrastructure, exposure to mining toxics, disturbance and displacement from non-nest foraging habitats into sub-optimal areas, or other forms of mine-related "take" are not included in the foreseeable take estimate.	Please refer to comment response 1.2.
1	1.6	Katie Fite/Wildlands Defense	How much does mining activity increase potential adult and fledged juvenile Eagle mortality in the 10-mile radius foraging radius? Wouldn't loss of adult eagles have a significantly greater impact on the population than the loss of nestlings? We haven't had time to review all USFWS documents that underlie the methods being applied here – but in reviewing ABC (American Bird Conservancy) comments on the old 2016 PEIS that the EA tiers to, it seems the 2016 PEIS underlying aim was to facilitate wind development – so it focused on nest loss and not much on other mortality???	Please refer to comment response 1.2. No loss of adult eagles is expected within either mine or surrounding 10-mile area, nor is authorization being sought for take of adults. Comments submitted on the draft 2016 PEIS were addressed in the final PEIS.
1	1.7	Katie Fite/Wildlands Defense	Since migratory Eagles from Alaska and Canada and other areas of the western US may use the Nevada habitat as winter habitat, and/or may be hunting here transitorily (if the Eagles wintered further south in NV for example and are moving north), this mortality also does not appear to be factored into the mines' mortality footprint. Is there information on wintering/migratory Eagles using the project sites and surrounding landscape?	Please refer to comment response 1.2. This EA analyzes potential impacts to nesting golden eagles associated with the Cortez Mine and Phoenix Mine proposed incidental take permits, as detailed in Section 5.0 of the EA. No take of migrating golden eagles is expected.
1	1.8	Katie Fite/Wildlands Defense	The USFWS tiers its EA actions to an old 2016 Programmatic EIS that appears to be out of touch with the current immense battery of existing and looming/foreseeable threats to Golden Eagles in the Great Basin – from habitat alteration and/or habitat loss, to the ever-growing mining and rapidly expanding and planned "renewable" energy development and infrastructure.	The EA utilizes the best available data at the time of preparation of this EA and meets the preservation standard described in the 2016 Programmatic EIS for the Eagle Rule Revision prepared by the USFWS. That PEIS describes our population monitoring and management efforts to ensure that we have adequate information for achieving our preservation standard.
1	1.9	Katie Fite/Wildlands Defense	The USFWS Eagle policy actions in the 2016 PEIS were questioned by knowledgeable commentors (see ABC comments). For example, USFWS relies on power pole retrofits somewhere in the Pacific Flyway as "mitigation". A 2022 paper (Mojica et al. 2022) confirms concerns about that uncertainty over effective power pole mitigation: See: (PDF) Importance of Power Pole Selection When Retrofitting for Eagle Compensatory Mitigation (researchgate.net) "*Compensatory mitigation, through retrofitting high-risk power poles to reduce electrocutions, can be used to offset negative effects, enabling the U.S. Fish and Wildlife Service to achieve their management objectives of species stability and persistence. Regulators, permit holders, electric utilities, and consultants lack an objective and repeatable method for discriminating between high-risk and low-risk power poles. To illustrate the importance of accurately identifying and retrofitting high-risk poles, we compare conservation benefits among three retrofitting project scenarios: a) high-risk poles only, b) a circuit of both low- and high-risk poles, and c) low-risk poles only. We assert that, in the absence of a common definition of high-risk power poles applied uniformly across the landscape, mitigation approved by the U.S. Fish and Wildlife Service could fall short of its intended value and be unable to meet management objectives".* (Mojica et al. 2022). "… *Ambiguity in the definition of HRPP diminishes the conservation benefit of a compensatory mitigation program if it allows poles with a low risk of causing electrocutions to be retrofitted and credited as if they posed the same risk as HRPP …".* Mojica et al. 2022.	See response to comment 1.8. Comments submitted on the draft 2016 PEIS were addressed in the final PEIS. The USFWS policy is that take must be effectively offset by compensatory mitigation such that there is no net increase in mortality, and compensatory mitigation must provide quantifiable results and the ability to monitor mitigation integrity. In the case of power pole retrofits, those retrofits must occur at high-risk poles or circuits, which are generally low-voltage distribution lines in high quality eagle habitat, with poles often utilizing three-phase conductors, jumper wires, and/or uninsulated small clearance grounding points.
1	1.10	Katie Fite/Wildlands Defense	The Mojica article discusses higher quality habitats (with eagle prey – leporids, sciurids), and complex configurations of wires as factors in eagle mortality and effectiveness of power pole mitigation. *"Given that leporids in the Great Basin are strongly associated with sagebrush, a combination of retrofits specifically in sage habitats and expanding sagebrush cover in habitats could be focus of mitigation".* Leporids in the Great Basin landscape are in a world of hurt, facing large-scale sagebrush and salt desert shrub loss from wildfires and flawed and ineffective BLM fire rehab and BLM management for livestock rather than sagebrush recovery and ecological integrity. There is now also the suddenly appearing threat of Rabbit Hemorrhagic Disease (RHD), a new lethal a d highly transmissible leporid disease. It has now been confirmed in Nevada.	Issues raised by the comment are outside the scope of this EA. As noted in the response to comment 1.9, habitat quality (including prey availability) is considered when defining high risk power poles.
1	1.11	Katie Fite/Wildlands Defense	From our observations, higher sciurid densities in the Great Basin often are associated with marginal irrigated ag land, which is present in areas of the LAP – and rodenticide use may occur in such areas. Both jackrabbits and ground squirrels are treated as vermin by the Nevada Game Department and unlimited numbers can be shot– also resulting in lead exposure risk for Eagles eating carrion.	Use of rodenticides by other operators is beyond the scope of this EA.

Public Comment Response Table

Environmental Assessment for the Issuance of Long-Term Incidental Eagle Take Permits
Public Comment Period: December 21, 2023, to January 26, 2024

Comment Letter No.	Comment Number	Name/Entity	Comment	Response
			Within the EA local and LAP areas, there may be use of rodenticide in valley and other areas with irrigated agriculture. This may be- as another threat to Golden Eagles. Examples: Eureka area ag., near the Humboldt River in the area of mega-mines that are significantly drawing down the aquifers by pumping water out of mine areas and using it for crops (largely cow food alfalfa) – as in the mega-mines north of I-80), and several ranches near Battle Mountain. It also appears the Kings River valley by Thacker Pass lies in the LAP area, and ground squirrels are killed in many ways there, and there are many more such areas in the LAP	
1	1.12	Katie Fite/Wildlands Defense	Is NGM itself contributing to rodenticide threats on the large and significant areas of private lands it controls? Hard rock mines in the arid West purchase large ranches for water rights that the mine will use and deplete -as open pit or underground mines cause aquifer drawdown or other impacts to water. Often major public lands grazing permits are attached to the private land "base properties" and large-scale public lands livestock grazing continues. In this way, NGM itself would be causing ever-expanded cheatgrass and other irreversible flammable weed infestations degrading Golden Eagle prey habitats, across vast areas of public lands in the local area and the LAP. NGM holding permits is the result of buying the lands for the water used and/or flows destroyed by the EA mines.	Issues raised by the comment are outside the scope of this EA.
1	1.13	Katie Fite/Wildlands Defense	Where are all NGM private lands in the LAP area? Are rodenticides used on these lands? If so, cessation of rodenticide use on NGM lands in the LAP region could be a contribution to mitigation. Where are all NGM-held public lands grazing permits where NGM grazing practices and livestock facilities may be impacting Golden Eagle habitats? There are an estimated 2 million acres or more of mine-held grazing permits in Nevada, with much of the acreage associated with NGM. Where are all the allotment areas where NGM holds public lands grazing permits? Activities here could result in habitat restoration – especially passive restoration of lands not yet infested with cheatgrass for prey species habitats. Also, eagles suffer from lead poisoning, and large influxes of mine workers may mean more recreational shooting including of "varmints" and jackrabbits, and more lead ingestion risk.	Issues raised by the comment are outside the scope of this EA.
1	1.14	Katie Fite/Wildlands Defense	**Nevada Public Lands Face Immense Development Threats** North-central Nevada, and indeed all of Nevada (the driest state in the nation) and much of the Great Basin, is at a critical juncture for Golden Eagles and a host of other declining wildlife species. This region, and the LAP area for this EA, faces unprecedented renewable energy and transmission line sprawl – plus ever-expanding mining exploration and development. This is coupled with climate change stress on terrestrial and aquatic systems, their sustainability, and the animals that rely on them. Yet USFWS analysis relies on the 2016 PEIS. Its assumptions were made under more robust population levels, and at a time when this Nevada landscape was not facing the current Interior Department firestorm of new and expanding energy projects in which public lands are being treated like a sacrifice zone to industrial energy– on top of the continuing and ever-expanding mining development impacts. The 2016 PEIS fails to effectively deal with the increasingly dire 2024 status of the regions' sagebrush and salt desert shrub habitats that are on the chopping block for industrial solar development, transmission lines, wind farms, and ever-expanding mining. Just this week, BLM released is Programmatic Solar DEIS – seeking to greatly expand solar development in the West and across many important Golden Eagle habitats.	Please refer to comment response 1.8.
1	1.15	Katie Fite/Wildlands Defense	Also see our later cumulative impacts discussion in these comments.	Comment noted.
1	1.16	Katie Fite/Wildlands Defense	USFWS may even have foregone scoping of this EA – relying instead on the old 2016 PEIS: "*This EA incorporates by reference the scoping performed for the PEIS (chapter 6, page 175) (USFWS 2016a)".* If that is the case, we object to the USFWS using scoping from 2016 as a basis for this EA e-mailed to the notification list in 2024.	See Section 1.4 for scoping. This EA was made public for a minimum 30-day period for public comment. Public comments are being evaluated to inform a final EA and our permit decision.
1	1.17	Katie Fite/Wildlands Defense	**Cortez Mine Proposed Take Permit Area and Gold Rush Mine -Local Area Mines Are Becoming Packed in Like Sardines** USFWS states: "*Within the Cortez Plan boundary, including the appropriate disturbance buffers surrounding Project activities, there are 26 previously identified golden eagle nests. The 26 nests, which are located on natural and humanmade features, are thought to represent all or part of 10 breeding territories … Three of these territories have one or more alternate nests outside a one-mile radius of approved disturbance and a two-mile radius of approved pit blasting; therefore, they have not been included for proposed take since they have nesting alternatives at a distance likely to ameliorate impacts from disturbance. Two other territories (one of which also has a nest outside the one-mile radius of approved disturbance and two-mile radius of approved pit blasting) are being included in NGM's separate*	Table 1-1 of the EA includes the specific territory nests included in the Goldrush take permit application that are within the applicable disturbance buffers associated with the Cortez Mine project. The Goldrush project has a separate take permit request that is being analyzed and has not yet been approved. At this time the Goldrush mine is seeking annual authorized disturbance take at eight golden eagle territories which would be mitigated at a 1.2:1 ratio for impacts to breeding if authorization were to be approved.

Comment Letter No.	Comment Number	Name/Entity	Comment	Response
			application for a disturbance take permit for the Goldrush Mine Project, and impacts will be analyzed in a separate NEPA action". How many Eagles total will the Gold Rush mine take? Why isn't that Golden Eagle loss information, and all the other mining take happening in the LAP area assessed carefully in the cumulative effects analysis?	
1	1.18	Katie Fite/Wildlands Defense	USFWS also states: *"The Cortez Mine Project Plan boundary and a surrounding 10-mile radius includes various rock outcrops and pit highwalls that are identified as potential eagle nesting areas. Shrub communities directly north of the Cortez Project and in valleys within 10 miles of the Cortez Project provide valuable foraging habitat. Limited water sources and very little riparian habitat are present in the Cortez Project area".* So it seems that the new Gold Rush mine will destroy and/or disrupt and fragment habitats used by the Eagles considered in this current NGM EA. How much overlap in the 10-mile GE survey area is there? https://eplanning.blm.gov/eplanning-ui/project/2012544/510 .	See response to comment 1.17 and 1.21. Impacts from the Goldrush project to golden eagles are discussed in the Goldrush EIS prepared by the Bureau of Land Management under a separate authorization. The Goldrush project has applied for an incidental disturbance take permit, with an associated EA having been posted for public comment.
1	1.19	Katie Fite/Wildlands Defense	A map from one of the EIS documents shows some of the complicated situation – with the aquifer drawdown that NGM admits to impacting many spring riparian habitats.  Please explain the amount of overlap with the Cortex EA for this Gold Rush project:	See response to comment 1.17. Potential aquifer drawdown and impacts to springs is beyond the scope of this EA

Public Comment Response Table

Environmental Assessment for the Issuance of Long-Term Incidental Eagle Take Permits
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			"*The proposed Plan of Operations encompasses a total of 19,853 acres, of which 772 acres are private land controlled by Nevada Gold Mines (NGM) and 19,081 acres of public lands administered by BLM's Mount Lewis Field Office and Tuscarora Field Office. Most of this area is within existing exploration and mine plans approved by the BLM and includes facilities and surface disturbance associated with the authorized plans*".	
1	1.20	Katie Fite/Wildlands Defense	How is the disturbance and habitat loss, degradation and "take" of the Gold Rush mine going to act synergistically with the huge disturbance of the Cortez project in having significant adverse effects on Golden eagle habitats, prey, and population persistence and viability? See additional concerns and questions about Gold Rush and this landscape in our cumulative impacts comments. See later discussion of cumulative effects for the Gold Rush Mine.	Please refer to comment response 1.17 regarding take at the Goldrush mine and cumulative effects. The Service is studying localized habitat loss with potential reduction of prey base, relative to golden eagle territory persistence, breeding effort, and local carrying capacity, but at this time it is unknown how those types of changes outside established disturbance buffers may impact eagles. The best available information the Service has at this time is largely derived from more directly observable impacts to breeding of activities within one and two-mile disturbance buffers. The Goldrush mine is an underground with greatly reduced above-ground habitat loss compared to surface mining.
1	1.21	Katie Fite/Wildlands Defense	**Phoenix Mine Proposed Take Permit** USFWS states: "*Within the Phoenix Plan boundary, including the appropriate disturbance buffers surrounding Project activities, there are a total of eight nests, which are located on natural features. The eight nests are thought to represent a total of two golden eagle breeding territories. The two territories are within one mile of approved surface disturbance and within two miles of approved pit blasting and are anticipated to be impacted during operations …".* We do not believe the proposed EA actions will effectively "avoid, minimize, and mitigate adverse effects to eagles", as USFWS claims it will do. As we describe here, threats are great and ever-mounting to this GE population – see cumulative effects discussion. Please explain if Eagle populations have declined if assumptions of relative stability and sufficient nest success for replacement will be valid given that: Take of adults and fledged juveniles are not addressed. Mitigation effectiveness is uncertain. GE habitats are increasingly degraded/fragmented and recovery of native vegetation communities is highly uncertain. There is no answer to cheatgrass domination of former sagebrush habitats, and climate stress makes lands even more susceptible to cheatgrass (as does ubiquitous livestock grazing including by NGM). There are now new disease threats to Golden Eagles (avian flu) and to their leporid prey (RHD) that have emerged. A 30-year time period is far too long for a take permit in these circumstances.	As stated in Section 5.0 of the EA, at five-year intervals, the Service will review the eagle data and other pertinent information, as well as information provided by NGM and independent third-party monitors, assessing whether NGM is in compliance with the terms and conditions of the permits and has implemented all applicable adaptive management measures specified in the permits and ensuring eagle take has not exceeded the amount authorized within that time frame. The Service will update fatality predictions, authorized take levels, and compensatory mitigation, as needed, for future years of the permits. If authorized take levels for the period of review are exceeded in a manner or to a degree not addressed in the adaptive management conditions of the permits, based on the observed levels of take using approved protocols for monitoring and estimating total take, the Service may require additional actions, including but not limited to adding, removing, or adjusting avoidance, minimization, or compensatory mitigation measures; modifying adaptive management conditions; modifying monitoring requirements; and suspending or revoking the permits.
1	1.22	Katie Fite/Wildlands Defense	USFWS states: "The Applicant developed a detailed monitoring plan that will be implemented for activities within one mile of active mining or two miles of blasting in coordination with the Service, BLM, and Nevada Department of Wildlife (NDOW)". We are concerned that this monitoring plan will not detect adult or juvenile Golden Eagle fatalities associated with mining haul roads, or other sources of mortality.	The authorization sought in this EA is for incidental disturbance take of golden eagles resulting in reduced reproductive success. The territory-specific monitoring plan developed with NGM is designed to assess annual territory occupancy, breeding success, and productivity; which will then provide information to assess impacts to eagles and determine mitigation needs to offset any impacts. Please refer to comment response 1.2.
1	1.23	Katie Fite/Wildlands Defense	We are concerned that the USFWS relies on the Pacific Flyway broad "mitigation" area. This very much undercuts any efforts to sustain viable local population levels, instead: *"Compensatory mitigation to fully offset authorized take would be conducted within the Pacific Flyway Eagle Management Unit (EMU). The Applicant would provide the compensatory mitigation at the required 1.2:1 ratio by retrofitting electric utility poles, as discussed in the 2016 PEIS. The intent would be to minimize the potential for eagle electrocutions and ensure that the effects of eagle incidental take are offset at the population level*".	As stated in Section 4.1.1 of the EA, the 1:2:1 ratio for compensatory mitigation would be implemented to achieve a net benefit to golden eagle populations, ensuring that regional eagle populations are maintained consistent with the preservation standard of the Eagle Act (USFWS 2016a). Section 4.1.2 addresses cumulative effects within the local population area, ensuring project impacts do not combine with authorized local take to exceed the preservation standard of the 2009 golden eagle population estimate.
1	1.24	Katie Fite/Wildlands Defense	The 2016 PEIS scheme seems a perfect way to not ensure effective mitigation for the local Eagle population takes place – and to have the species slide into further into decline. That is especially the case with issuing a 30 year take permit. The EA states: "*Long-term eagle incidental take permits require the Service to conduct five-year reviews. Based on the results of monitoring described in **Section 2.3.1** for the Projects, during the five-year review process, the Service would*	Comments on the 2016 Programmatic EIS are outside the scope of this EA. Please also refer to comment response 1.21.

Comment Letter No.	Comment Number	Name/Entity	Comment	Response
			*evaluate if disturbance take occurred for each known breeding territory described in **Tables 1-1** and **1-2**. If eagles in these breeding territories do not produce successful young, the Service would assume NGM's activities prevented eagles from successfully breeding and a disturbance take incident occurred. If NGM confirms no Project activity occurred within one mile of a golden eagle nest, or blasting within two miles of nests, from December 15–April 15 and monitoring confirms eagle nests are not in-use the Service would determine no take occurred. The Service would consider use of alternate nests within a given territory when evaluating whether take occurred as a result of NGM's mine-related activities. After assessing how many take incidents occurred during the first 5 years, the Service would then evaluate how much compensatory mitigation might be either credited or owed for each successive five-year period remaining within the permit duration for each Project"*	
1	1.25	Katie Fite/Wildlands Defense	How will USFWS monitor and "vet" when blasting actually takes place? What is the breaking point after which the USFWS considers the full range of take that may be occurring, including of wintering or non-resident /migratory birds? We again express our concern that this does not track mortality of juvenile and adult birds. Isn't loss of an adult bird a bigger blow to the population than loss of a nestling?	The disturbance buffers (one mile for general activities and two miles for blasting) have been instituted to help determine when activities may occur that would result in disturbance to eagles potentially rising to a level resulting loss of breeding success (i.e., take). Mining activities, and blasting in particular, are not expected to result in direct mortality of local or non-resident adult or subadult eagles.
1	1.26	Katie Fite/Wildlands Defense	The mitigation required for Cortez: "431.47 poles (avoided loss from retrofits maintained and effective for 10 years); or 187.78 poles (avoided loss from retrofits maintained and effective for 30 years)". And mitigation for Phoenix: "215.73 poles (avoided loss from retrofits maintained and effective for 10 years); or 93.89 poles (avoided loss from retrofits maintained and effective for 30 years)". What is the "value" to the population of an adult eagle? A juvenile eagle? A chick? An egg? How much does it cost to retrofit a pole?	Please refer to comment 1.2. As stated in Section 4.0 of the EA, take that may result in injury or mortality of eagles is not expected (adult or otherwise), nor would it be authorized under this permit. Costs for retrofitting poles varies based on the manner of retrofit and is beyond the scope of this EA.
1	1.27	Katie Fite/Wildlands Defense	**Sight and Sound Disturbance Impacts and Questions** Do the combination of sight and sound disturbance make the likelihood of nest abandonment worse? Is there any research on the combination of sight/visual disturbance and sound/aural disturbance on Golden Eagles?	The Service is not aware of such research. We acknowledge the potential for noise to affect eagles, as is reflected in the regional buffer guidance that recommends a one-mile no disturbance buffer for most activities, and a two-mile buffer for blasting. The Applicant's request for incidental golden eagle take permits considers the potential for disturbance, including visual and noise impacts, to eagles from Project activities.
1	1.28	Katie Fite/Wildlands Defense	Does the sound frequency of disturbance impact nest disturbance vulnerability? What about very low frequency infrasound impacts?	There is no data available to assess broadly how low frequency sounds may impact golden eagles, and there has been no anecdotal information to suggest particularly adverse responses to low sound frequencies. Please also refer to comment response 1.27.
1	1.29	Katie Fite/Wildlands Defense	What is the Lmax – or instantaneous noise level at the nest sites– including overlapping multiple types of mining activity noise from various NGM activities? Are there noise transmission studies that have been conducted across varying weather conditions?	Please refer to comment responses 1.27 and 1.28.
1	1.30	Katie Fite/Wildlands Defense	USFWS references important vegetation communities for foraging. How have higher quality foraging area vegetation communities changed over time in the 10-mile foraging area? How might sight and sound disturbance impacts of the NGM mining displace Golden eagles into sub-optimal habitats? How is that factored into analyses?	Issues raised by the comment are outside the scope of this EA.
1	1.31	Katie Fite/Wildlands Defense	Are there any Black-tailed jackrabbit /leporid survey inventory records from this area – project areas, 10-mile survey forage zone, the 109-mile LAP? It is our observation that there have been many successive recent years with very low Jackrabbit numbers in much of the Great Basin.	Standardized statewide annual road-based lagomorph surveys were initiated by the Nevada Department of Wildlife in 2020, but those surveys were not designed around the Projects 10-mile survey areas in this EA. Local variation in golden eagle prey base were captured in USFWS (2016b).

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1	1.32	Katie Fite/Wildlands Defense	Are these mine areas big game winter range?	Issues raised by the comment are outside the scope of this EA.
1	1.33	Katie Fite/Wildlands Defense	We are including information from a recent Coates et al. 2023 paper on industrial geothermal development impacts to	The comment as received was not complete, therefore no response has been prepared.
1	1.34	Katie Fite/Wildlands Defense	**Inadequate Range of Alternatives** We are concerned about the inadequate range of alternatives. The USFWS must consider additional alternatives that provide much stronger protections and mitigation for the local Golden Eagle population, and any wintering or transiting birds. Examples of alternative mitigation actions: Require estimation of and mitigation for all forms of “take” of adult and juvenile birds. Provide triggers for mandatory avoidance of habitat-destroying mining activity in all or part of the project area during breeding season. Prohibit blasting and explosions during the breeding/nesting period until chicks have fledged. Require acquisition of habitat on private lands and/or large-scale re-establishment of suitable habitat on public lands by re-establishing sagebrush with a clear requirement and benchmark for “success” in re-establishment, and repeated efforts until success is achieved.	As stated in Section 2.4 of the EA, the Service considered other alternatives based on communication with the Applicant but concluded that these alternatives did not meet the purpose and need underlying the action because they were impracticable for the Applicant to carry out or did not adequately address the risk of take at the two Projects. While the Service continues to investigate the value of alternative mitigation actions, retrofitting power poles to reduce electrocution risk (one of the greatest sources of anthropogenic sources of mortality for golden eagles) continues to be the best verifiable and quantifiable method to manage the golden eagle population based on the 2009 population preservation standard. Benefits to eagles of compensatory mitigation must meet the Service’s preservation standard of ensuring no net loss of eagles; actions such as habitat restoration or land conservation banking have not been demonstrated to quantifiably benefit eagle populations and do not meet the Service’s management needs.
1	1.35	Katie Fite/Wildlands Defense	**Non-Nest Site Take** The USFWS avoids consideration of take taking place for adults and fledged juveniles by pointing to this: “Vehicle Speed Limits: Speed limits within the Plan boundaries will be reduced to help avoid the risk of vehicle collisions with eagles. The modified speed limit will also reduce the number of carcasses on roadways from terrestrial mammal collisions”. How will this be enforced – especially on County or other roads? The language also doesn’t say “shall”. How often and regularly will all areas of concern be monitored for vehicle speed? How much will speed limits be reduced?	Speed limitations are included as part of previous BLM authorizations. In addition, the projects are subject to MSHA regulations and oversight. Road mortality of eagles on county, state, and other roads outside each Project area are outside the scope of this EA.
1	1.36	Katie Fite/Wildlands Defense	“Carcass Management: NGM staff will remove carcasses from all roadways within the Cortez Mine Project and Phoenix Mine Project when on-site and dispose of them appropriately to reduce the risk of vehicle collisions”. How frequently will roads be checked for carcasses? Will there be mine personnel who focus on this every day? How will this be enforced? How many carcasses have been removed since whatever the baseline EIS is for each of these projects (as there appear to have been a series of mining activity expansions piece-mealed in).	Carcass management will be part of the training provide to employees. Removal will occur when encountered. Please refer to comment response 1.2. As stated in Appendix A and B of the EA, no eagle mortalities due to vehicle collision have been reported at Cortez or Phoenix, respectively.
1	1.37	Katie Fite/Wildlands Defense	Regarding EA Table 2-3 (existing conservation measures): Where has netting been installed? How effective has it been, and have avian mortalities been documented? How frequently will monitoring take place?	Table 2-3 and 2-4 of the EA detail which Project elements may utilize netting or floating “bird ball”. These measures are previously approved from other BLM authorizations. Please refer to comment response 1.2.
1	1.38	Katie Fite/Wildlands Defense	Regarding CM-4: What does the start of the project mean – the initial big burst of mine construction – or the next stage in the typical incremental outward habitat destruction over decades? Why can’t mines commit to any veg removal and blasting taking place in the non-nesting/non-breeding season?	These measures are previously approved from other BLM authorizations. As stated in Table 2-3 and 2-4 of the EA, to comply with the Migratory Bird Treaty Act, no new surface disturbance would occur during the migratory bird breeding season (March 1 through July 31 for raptors and April 1 through July 31 for other avian species). If surface-disturbing activities are unavoidable during the migratory bird breeding season, a nest survey would be conducted by a BLM-approved qualified avian biologist prior to any surface-disturbing activities in order to avoid potential impacts to

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				breeding migratory birds. In addition, Table 2-1 and Table 2-2 detail monitoring requirements applicable to the proposed incidental take permits.
1	1.39	Katie Fite/Wildlands Defense	Have there been studies of Golden Eagle collisions with lines distant from poles? If so, why aren't lines these marked with flight diverters in high eagle use areas? When we have submitted such comments on large-scale transmission line projects – with lines in potential higher migratory bird flight paths or areas– they routinely get ignored. Example: Idaho Power's Gateway and Boardman EISs. Why isn't there consideration of mine power lines being buried alongside road ROWs – rendering the "need" for anti-perch and other measures unnecessary in the local area? This also would prevent raptor powerline electrocution-caused fires (as have happened on numerous occasions in Idaho where the dead bird tumbles to earth in flames starting a wildfire) from taking place. How long (distance) are all existing powerlines associated with/built for mines? We are seeing very long lengths of newer mine-specific powerlines. Example: Pan Mine/Easy Junior Mine line.	Avian Power Line Interaction Committee standards would be followed as applicable, and as stated in Tables 2-3 and 2-4. Mitigation for the proposed incidental take permits is detailed in Section 4.0 and Section 5.0. Powerline collision risk has been addressed in the PEIS (USFWS 2016a).
1	1.40	Katie Fite/Wildlands Defense	Nevada Gold Mines reap such huge profits while causing irreversible destruction to public lands and to water sustainability in the Great Basin that none of our suggestions should be considered economically infeasible.	Issues raised by the comment are outside the scope of this EA.
1	1.41	Katie Fite/Wildlands Defense	What is the mitigation for potential mine-caused fire Golden Eagle habitat loss? Especially if a mine-caused fire burns up significant public lands. Such mitigation should be that the mines is required in this situation to successfully re-establish native shrub vegetation (or if in the lowest elevations – salt desert shrubs) suitable for leporid jackrabbit prey in burned habitats.	Issues raised by the comment are not applicable to the proposed incidental take permits, and are outside the scope of this EA.
1	1.42	Katie Fite/Wildlands Defense	The EA includes a Gap Veg Table. There is a 2011 citation – is that the date the vegetation community info is from? Complete current on the ground current vegetation must be inventoried and detailed here – including the extent of cheatgrass and other flammable annual grasses in understories where shrubs are still present.	The 2011 citation refers to a document from the Southwest Regional GAP Analysis Project containing land cover descriptions, as referenced in Section 7.0 of the EA. Flammability of existing vegetation is outside the scope of this EA.
1	1.43	Katie Fite/Wildlands Defense	The USFWS must also consider requiring very significant native shrub re-establishment (and No PJ destruction) as part of a mitigation package – as the EA admits shrub cover is crucial for supporting Black-tailed Jackrabbit habitat. The rate and scale of PJ loss across much of the LAP area (and large-scale continued BLM efforts to destroy this habitat that is critical for Pinyon Jay survival and for migratory bird and other biodiversity preservation) – combined with wildfires and past BLM "treatment" and forage seeding losses of native sage and salt desert in the vicinity of both NGM mines – must be assessed under a hard look NEPA analysis.	Benefits to eagles of compensatory mitigation must meet the Service's Preservation Standard of ensuring no net loss of eagles; actions such as habitat restoration or land conservation banking have not been demonstrated to quantifiably benefit eagle populations and do not meet the Preservation Standard.
1	1.44	Katie Fite/Wildlands Defense	The EA Veg chart shows a recent fire of over 11,000 acres. Where was this? NGM mitigation should include actually actively restoring sagebrush/native shrubs to sites.	Vegetation rehabilitation from fires is outside the scope of this EA.
1	1.45	Katie Fite/Wildlands Defense	NGM holds vast public lands grazing permits. These are associated with having bought out ranches due to ground water use and depletion impacts from its massive mining impacts. Removing grazing disturbance from significant areas of remaining native shrub habitats should be fully considered as GE and other wildlife habitat mitigation. It is critical to enable passive restoration in areas that have not yet succumbed to flammable annual grasses, as grazing causes annual grass expansion. Reisner et al. 2013, Williamson et al. 2019 https://www.fs.usda.gov/research/treesearch/61682 .	Issues raised by the comment are outside the scope of this EA.
1	1.46	Katie Fite/Wildlands Defense	The USFWS must provide a much more realistic baseline assessment and NEPA hard look at the current ecological conditions, and also the real-world impacts of modern-day mega-mining, coupled with the combined effects of grazing disturbance and climate stress and over-allocation of, and stress on and depletion of – ground and surface waters.	Baseline conditions are discussed in Section 3.0 of the EA and Appendix A and B of the EA. Other issues raised by the comment are outside the scope of this EA.
1	1.47	Katie Fite/Wildlands Defense	USFWS has ignored the NGM and other area mega-mine huge impacts on ground and surface water. Mine pit caused cones of depression and aquifer drawdown result in long-term and often irreversible depletion of spring and stream flows, and loss of perennial stream segments altogether from these mega-mines. What is the rate of groundwater decline in the hydrographic basins in the 10-mile analysis area? In the hydrographic basins in EA LAP cumulative effects area?	Issues raised by the comment are outside the scope of this EA.
1	1.48	Katie Fite/Wildlands Defense	The EA p. 20 also states: *"Other habitat types that are believed to represent important golden eagle foraging habitats in the region include natural water sources, wetlands, and meadows. Wetlands and springs provide a reliable water source for eagle prey and, therefore, allow higher concentrations of eagle prey. There are multiple seeps, springs, stock troughs, and intermittent and ephemeral drainages throughout the vicinity of the Projects. Meadow habitats, marshes, agricultural alfalfa pivots,*	Vegetation community locations within the study area for both projects are detailed in Appendix A and B of the EA. This includes locations of riparian and marsh areas.

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			and pastures in the vicinity of the Projects also support large populations of rodents and lagomorphs. These habitats occur at farms and ranches throughout the valley floors surrounding the Projects". Where are these located? What is the flow rate data for all periods of time flow data has been collected? How many of these are suffering, or are expected to suffer, flow loss from mine activities and effects, to depletion of ground and surface waters? Note the Argenta livestock grazing analysis documents demonstrate the minimal flows – and increasing loss of perennial water in springbrooks and drainage networks. We note that the new NGM Gold Rush mine (discussed under cumulative impacts) is in proximity to many springs and seeps in the mine-projected aquifer drawdown area.	
1	1.50	Katie Fite/Wildlands Defense	How much has riparian habitat loss in the local 10-mile radius area been exacerbated by chronic livestock grazing riparian degradation and flow-depleting livestock water developments – which has been the standard BLM action. Put a little band-aid fence around a spring and dub it 'protected"– while excavating and gutting it with a water pipelines to livestock troughs. This destroys the integrity of the underground soil layers. It may significantly kill or alter surface flows. In the band-aid exclosure. See Sada et al, 2001 BLM Tech. Report, Sada and Lutz 2016. Further amplified by the effects of megadrought, and climate stress with its elevated temperatures exacerbating water loss?	Issues raised by the comment are not applicable to the proposed incidental take permits, and are outside the scope of this EA.
1	1.51	Katie Fite/Wildlands Defense	The EA's table of existing "conservation" actions refers to fencing grazing out of riparian areas – but this fencing is often accompanied by development or re-development of springs for livestock water troughs. This may cause further damage or permanent harm to surface water flow expression, with the end result being reduced or no flows in the fenced area – with water going to cow troughs instead – and less habitat. Also, fencing some riparian areas and not others results in intensified cattle grazing impacts being shifted to any unprotected mesic or riparian sites, stream segments or drainage areas in other portions of affected watersheds, and a continuing downward spiral of degradation and flow loss.	Issues raised by the comment are not applicable to the proposed incidental take permits, and are outside the scope of this EA.
1	1.52	Katie Fite/Wildlands Defense	We are including our Appeal and other information associated with the Argenta livestock grazing allotment – where flows (and linked riparian habitat) are vanishing from many areas, and where highly abusive livestock grazing degradation and livestock water developments continue (and have recently been expanded) in order to support continued high numbers of livestock – including high n umbers of NGM permit livestock!	Issues raised by the comment are not applicable to the proposed incidental take permits, and are outside the scope of this EA.
1	1.53	Katie Fite/Wildlands Defense	The EA states: "*Tops of slopes oriented perpendicular to prevailing winds or near ridge crests of cliff edges are features that are conducive to slope soaring and are attractive features for eagles. Mountainous areas that include ridgelines and slopes with a variety of aspects such that winds from multiple directions would create deflection currents are also suitable for soaring. Saddles or low points on ridgelines or near riparian corridors may serve as flight paths. These features occur within both the Cortez Mine Project and the Phoenix Mine Project".* "*The golden eagle nesting territories within the 10-mile radii of the Projects were delineated based on surveys conducted between 2012 and 2019 at the Cortez Mine and 2012, 2013, and 2018 at the Phoenix Mine*. [How many currently exist?]. *Within the Cortez Mine Project area, a total of 68 distinct territories were delineated, and at the Phoenix Mine Project area, a total of 13 distinct territories were delineated. Delineations were based on proximity of nests to one another, concurrent occupancy of adjacent nests, alternating occupancy (from year to year) of adjacent nests, and nearest available quality nesting substrate obtained from surveys and monitoring at the Projects.* *"The number of fledged young in the Cortez Project area was 27 in 2018 and 10 in 2019, with an average annual productivity of approximately 0.95 and a range from 0.59 to 1.34 fledged young per occupied (in-use) territory. The number of fledged young in the Phoenix Project area was 1.0 in 2013 and 2.0 in 2018, with an average annual productivity of approximately 1.25 and a range from 0.5 to 2.0 fledged young per occupied (in-use) territory*". [Please explain how this was arrived at more clearly]. "*These generally fall within values documented for other golden eagle populations, as McIntyre (2002) reports a fledglings per occupied territory rate from 1988 to 1999 of 0.16 to 1.16".* Where is the more Eagle recent count data and why isn't this averaged in – i.e. 2020, 2021, 2022 and 2023 Eagle counts? Haven't Nevada Golden Eagle populations have suffered continued losses of productivity in more recent years – equating to significant reproductive failure?	The time periods and the data referenced in Section 3.1.2 refer to the period when nests were identified, and territories delineated within the larger 10-mile survey area. More details on project area eagle populations can be found in the ECPs respective to each project, which are Appendix A and B of the EA.

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1	1.54	Katie Fite/Wildlands Defense	USFWS also states: *"Authorized Project activities in the Cortez Mine and Phoenix Mine include development of roads, blasting, drilling, moving large pieces of equipment, hauling ore, processing, and other mining- related activities. Risks to golden eagles include unintentional disturbance from activity near nest sites, such as noise and visual irritation from surface disturbance, vehicular traffic on roads, and large equipment operation. Other risks are applicable to golden eagles nesting on highwalls of active pits, which may cause nest abandonment due to the mining activities occurring nearby and within pits".* The USFWS must consider preparing a stand-alone EIS, and not rely on its stale 2016 EIS to assess climate stress; to take a hard look at current and foreseeable risks and threats to local and regional Golden Eagle populations and impacts to population viability; effects on Eagle prey and habitats and associated populations in 2023. Yet the EA merely points back to 2016 analysis.	Issues raised by the comment are not applicable to the proposed incidental take permits, and are outside the scope of this EA. Please refer to comment response 1.8.
1	1.55	Katie Fite/Wildlands Defense	The 2016 PEIS does not provide sufficient protections for Golden Eagles, and this is especially the case in the arid West, and where a project like hard rock mining – has such a significant impact on many elements of the GE habitat.	Please refer to comment response 1.8.
1	1.56	Katie Fite/Wildlands Defense	The EA "effects" analysis states: "*The Applicant is requesting authorization for disturbance to and loss of annual productivity from four golden eagle breeding pairs at the Cortez Mine and two breeding pairs at the Phoenix Mine, each under a separate permit authorization*". But what if over the past few years there has been less successful production taking place? Allowing the proposed level of take is based on the assumption that other nests and breeding pairs in the landscape are reproducing, and nests are "productive". The USFWS basically treats these 4 breeding pairs and 2 breeding pairs as a sacrifice to a foreign-controlled mining corporation. Instead of pretending the world is the same as it was in 2016 when the stale PEIS was done, the USFWS must take a hard look at, and fully assess, effects on the local and regional GE population from the stresses of the past several years and the huge looming development threats – all while climate change stress worsens. This includes possible loss of productivity during this period which has resulted in lower reproduction. There has been year after year of low Jackrabbits populations– the staple prey, and their habitat continues to be overrun with grazing and fire disturbance-caused weeds, burn in wildfires (and endless BLM failed fire rehabs that do not recover suitable prey habitat and sage brush no matter how much herbiciding BLM does), and be eaten up with hard rock mine expansion after mine expansion in NV as well as Ormat geothermal exploration and development in this very same landscape. And now – and certainly over the ridiculously long 30 year period – the Haaland Interior Dept. is promoting large-scale industrial renewable energy development and an associated horror-show of high voltage transmission lines linked to this development– including scoping major expansions across the public lands of nearly all the West – 11 western states.	Please refer to comment response 1.21 regarding the five-year review periods for incidental take permits. Surface disturbance associated with these projects were previously approved by the Bureau of Land Management. Appropriate environmental protection measures and mitigation measures will be implemented to address impacts to golden eagles associated with the proposed incidental take permits. Please refer to comment response 1.8 regarding the 2016 Programmatic EIS.
1	1.57	Katie Fite/Wildlands Defense	See attached GBRW and WLD comments on the BLM 2023 Solar EIS scoping, and the solar DEIS released this week, and our EA cumulative impacts discussion herein.	The BLM 2023 solar DEIS is outside the scope of this EA.
1	1.58	Katie Fite/Wildlands Defense	Wind energy is poised to increase dramatically in Nevada. Spring Valley wind is now known to have killed at least 8 Golden Eagles. It appears dog carcass searches don't take place there, yet dogs are much better at detecting carcasses than humans. Now Interior is fast-tracking Stagecoach Wind, a huge project proposed between Ely and Eureka in a landscape now exploding with new mines and mining exploration, as well as solar energy projects. Ely BLM documents show 4 potential wind projects. We are dismayed at how federal agencies are complacently trying to ramrod Stagecoach wind through -under an extremely flawed process known as FAST.	Issues raised by the comment are not applicable to the proposed incidental take permits, and are outside the scope of this EA. Please refer to comment response 1.10.
1	1.59	Katie Fite/Wildlands Defense	There is also the matter of wintering Eagles becoming road kills or suffering injury or mortality from mining infrastructure or activities. See further discussion of threats and cumulative impacts below in these comments.	Please refer to comment response 1.2.
1	1.60	Katie Fite/Wildlands Defense	USFWS states: "*Based on updated Eagle Act permit regulations, a compensatory mitigation ratio of 1.2:1 is used. The 1.2:1 ratio for compensatory mitigation achieves a net benefit to golden eagle populations, ensuring that regional eagle populations*	As stated in Section 4.1.2 of the EA, adult golden eagle populations are currently at an equilibrium level that would likely not sustain further unmitigated mortality (USFWS 2016a). By this we mean that golden eagle populations are relatively stable but might be in slight decline across the

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			are maintained consistent with the preservation standard of the Eagle Act despite indications of declines in golden eagle populations (USFWS 2016a). Using the REA, the Applicant would offset the take of golden eagles at the Projects for the first five-year permit period by contributing to a Service-approved fund or an approved in-lieu fee program in the amount equal to retrofitting". But what if the GE population is significantly declining? How can applying this metric preserve the population?	EMU based on high anthropogenic mortality rates. The compensatory rate of 1.2:1 is used to offset potential population declines at the EMU level.
1	1.61	Katie Fite/Wildlands Defense	Also: *"Along with the monitoring and minimization measures outlined in **Section 2.3**, the Applicant would provide compensatory mitigation to offset the proposed take. To determine the amount of mitigation required, the Service's Golden Eagle REA was used (USFWS 2018)".* The USFWS points to a "REA" document (no link provided) that is now 5 years old, and the Golden Eagle population data it is based on may well be even older. For many years USFWS claimed populations were doing fine. Now they aren't. Assumptions from the past – 1990s-2010s should not be used to claim adequate mitigation for populations in facing all the existing and foreseeable full throttle renewable energy development, mining and other development, disease and other crises of 2024. • Cortez Mine: Approximately 431.47 poles (avoided loss from retrofits maintained and effective for up to 10 years) or 187.78 poles (avoided loss from retrofits maintained and effective for up to 30 years) under the Proposed Action. • Phoenix Mine: Approximately 215.73 poles (avoided loss from retrofits maintained and effective for up to 10 years) or 93.89 poles (avoided loss from retrofits maintained and effective for up to 30 years) under the Proposed Action. The final power pole number depends on the type and expected longevity of each retrofit. As the implementation of compensatory mitigation would fully offset the estimated take for the Projects and would provide additional net benefit to eagle populations, there would be no significant negative impacts to eagle populations from issuing an eagle take permit under the Proposed Action …".	The EA utilizes the best available data and references available at the time of preparation relevant to the proposed action, which includes the 2018 Golden Eagle Resource Equivalency Analysis prepared by the USFWS. Additionally, all references are provided in Section 7.0 of the EA. Please refer to comment response 1.60 regarding eagle populations.
1	1.62	Katie Fite/Wildlands Defense	**Sensitivity to Noise and Visual Intrusion** Mounting scientific evidence shows how seriously sight and sound disturbance footprint of industrial development projects impact Sage-grouse habitat use. Golden eagles may not be as sensitive as Sage-grouse, but these are still important factors to consider. Research by Coates et al. 2023 examined geothermal energy development impacts on Sage-grouse caused by Ormat geothermal plants in Tuscarora Nevada and McGinness Hills/Grass Valley near Austin Nevada. Coates et al. 2023 found: *"… sage-grouse population numbers declined substantially in years following the development of a geothermal energy plant … sage-grouse abundance at leks [breeding sites] decreased within five kilometers of the infrastructure and leks were completely abandoned at significantly higher rates within about two kilometers. So, we looked at the mechanisms responsible for declines in numbers and lek abandonment, and we found adverse impacts to survival of female sage-grouse and their nests".* "*Nests located farther from the plant tended to experience higher rates of survival. Interestingly, where hills were located between sage-grouse nests and infrastructure [high topographic impedance], we found the distance effect to be less important. Under those circumstances topography was compensating for the lack of distance and likely serving to reduce effects of light and sound".* "*The physical footprint of geothermal energy infrastructure is small relative to other renewable energy … but noise and light pollution emanating from these power plants likely cause larger adverse direct impacts to wildlife populations than infrastructure alone".*	Please refer to comment response 1.27.

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1	1.63	Katie Fite/Wildlands Defense	A large envelope of noise and flashing bright lights and unnatural sights and movement would also extend outward miles from access routes used by mine semi-trucks and other mine-associated equipment including excavation activity during the 365-day a year 24 hour a day mine operation activity. Noise may also result in physiological stress on birds. Has this been investigated in Golden Eagles? See Kociolek et al. 2011, and Blickley et al. 2012b where chronic noise caused elevated fecal stress metabolites in Sage-grouse. "*One potential contributor to the worldwide decline of bird populations is the increasing prevalence of roads, which have several negative effects on birds and other vertebrates. We synthesized the results of studies and reviews that explore the effects of roads on birds with an emphasis on paved roads. The well-known direct effects of roads on birds include habitat loss and fragmentation, vehicle-caused mortality, pollution, and poisoning. Nevertheless, indirect effects may exert a greater influence on bird populations. These effects include noise, artificial light, barriers to movement, and edges associated with roads. Moreover, indirect and direct effects may act synergistically to cause decreases in population density and species richness. Of the many effects of roads, it appears that road mortality and traffic noise may have the most substantial effects on birds relative to other effects and taxonomic groups*". (Kociolek et al. 2011).	Please refer to comment response 1.27.
1	1.64	Katie Fite/Wildlands Defense	See our cumulative impacts discussion below re: Ormat and other energy developments..	Issues raised by the comment are outside the scope of this EA.
1	1.65	Katie Fite/Wildlands Defense	"*In determining the significance of effects of the two Projects on eagles, we confirmed that the Proposed Action of issuing an eagle take permit for the take of golden eagles does not deviate from the analysis provided in the PEIS (USFWS 2016a) and the Service's 2016 report Bald and Golden Eagles: Population Demographics and Estimation of Sustainable Take in the United States, 2016 Update (USFWS 2016b). We also assessed effects specific to the Cortez Mine and Phoenix Mine to eagles that were not covered in PEIS analysis. These effects may occur at the project scale, at the local-area eagle population scale, and at the regional EMU scale".* USFWS describes under "direct impacts "offset take". In determining the significance of effects of the two Projects on eagles, we confirmed that the Proposed Action of issuing an eagle take permit for the take of golden eagles does not deviate from the analysis provided in the PEIS (USFWS 2016a) and the Service's 2016 report *Bald and Golden Eagles: Population Demographics and Estimation of Sustainable Take in the United States, 2016 Update* (USFWS 2016b). We also assessed effects specific to the Cortez Mine and Phoenix Mine to eagles that were not covered in PEIS analysis. These effects may occur at the project scale, at the local-area eagle population scale, and at the regional EMU scale. We believe the analysis very much does need to deviate – given the declining numbers of Ges in the region, and the many, grave and growing threats that were not in any way adequately assessed in the EIS. We request USFWS prepare an EIS to actually take a hard look at CURRENT habitat ecological conditions, the huge battery of ever-growing development and other threats which may also inter-act synergistically, and changes in GE populations in the region since 2016.	Please refer to comment response 1.8 and 1.9.
1	1.66	Katie Fite/Wildlands Defense	**LAP Cumulative effects Area, and EA Appendix C Estimates** The LAP is the area of EA cumulative effects analysis. What data exists on the past 5 years of eagle nesting, nest success, and other observations – such as eggs not hatching -in the 109 mi. radius LAP area? What data exists for the Great Basin region? For Nevada?	The LAP provides data on permitted and unauthorized take within the 109-mile natal dispersal area. The LAP data does not track golden eagle nesting density, annual territory occupancy, productivity or nesting data. The estimated number of eagles within the LAP (787.03) is a stepped-down estimate based on the density calculated within the Pacific Flyway Eagle Management Unit (USFWS 2016a, USFWS 2016b).

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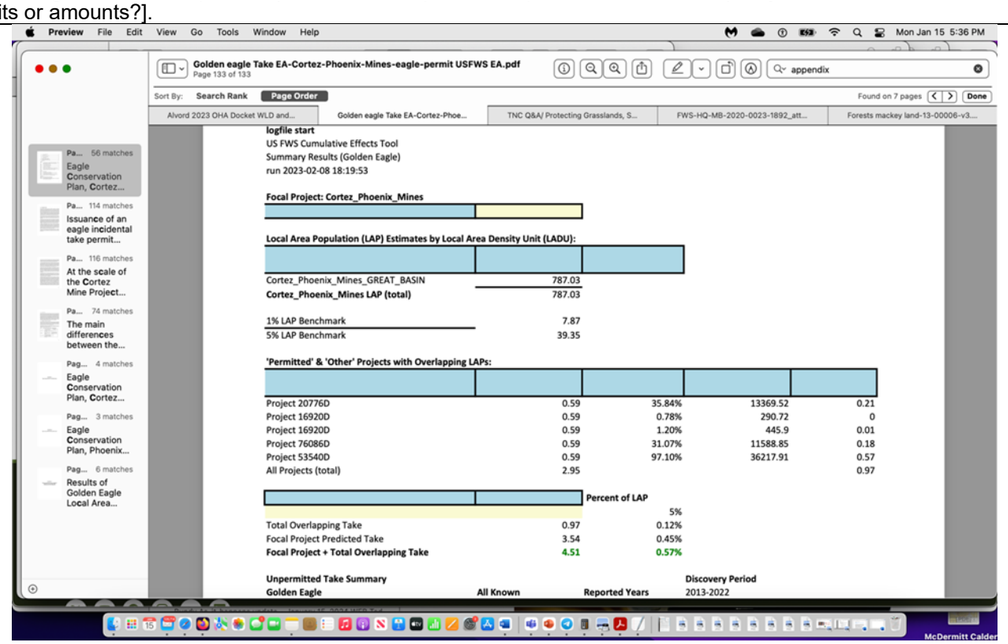
1	1.67	Katie Fite/Wildlands Defense	Also: "*The combined LAP for the Cortez Project and Phoenix Mine Project was estimated to be 787.03 golden eagles*". [WHAT years of data is this based on?]. *"The five percent benchmark for authorized take of that LAP is 39.35 eagles, while current authorized take in the LAP, including that estimated to occur at the Cortez Project and Phoenix Project, is 4.51 golden eagles, or 0.57 percent of the LAP per year"*. [BUT – how many of the huge number of mines, and Ormat or other projects are included in this? Please provide estimated annual "take" numbers for EACH of the mines in the Nevada Mines Commission report discussed below. Please include the Thacker Pass lithium mine eagle "take" and that of any other mines that are newer than 2021. Note also later reference to Gold Rush mine take near on the horizon. https://www.blm.gov/press-release/blm-approves-goldrush-mine-nevada]. (This appears close to the southern boundary of the 109 mi. radii.). The Pan mine (may be just outside?) has no USFWS authorized take – at least, that is our understanding???	As stated in Section 4.1.2 of the EA, data on known permitted and unauthorized take was used to estimate cumulative impacts to the LAP. Additionally, the five permitted projects with overlapping LAPs are included in Appendix C of the EA. A golden eagle incidental disturbance take permit has not been issued for the Goldrush Mine, but that project is seeking an incidental disturbance take permit for annual impacts to eight golden eagle breeding pairs.
1	1.68	Katie Fite/Wildlands Defense	The take that would be authorized by this permit for the Projects does not exceed one percent of the LAP, so it would not significantly impact the LAP (**Appendix C**)". [WHAT years is Appendix C population data based on, and what mines or other large-scale developments (such as Ormat plants and powerlines and roads) may not have authorized "take" permits or amounts?].	Appendix C details reported years of unpermitted take, with the discovery period from 2013-2022.
1	1.69	Katie Fite/Wildlands Defense	 WHAT specific years were used to estimate local density in Appendix C – i.e. the 787 birds? Does this include chicks? Or is this total adult birds? How does USFWS account for mortality of wintering GE that may occur? Is that just accepted under the USFWS's flawed and extremely industry-friendly methods?	Please refer to comment response 1.66 and 1.68 regarding USFWS data and estimates of golden eagle mortality. The LAP estimate does not include golden eagle nestlings.

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1	1.70	Katie Fite/Wildlands Defense	We strongly object to USFWS basing estimates of other mortalities on the number of birds USFWS knows about – as many deaths may go undetected or unreported. USFWS also states: "*Additionally, take of eagles has the potential to affect the larger eagle population. Accordingly, the 2016 PEIS (USFWS 2016a) analyzed the cumulative effects of permitting take of golden eagles in combination with ongoing unauthorized sources of human-caused eagle mortality and other present or foreseeable future actions affecting golden eagle populations. The Service established that golden eagles could sustain population levels at a 10 percent take threshold.*" But what if reproduction is not happening to any extent? This appears to be the case right now in much of the Great Basin. Further, this metric seems absurd – because many eagles killed – by poaching, electrocution, rodent poisoning chemicals, vehicles, collisions with wires and fences, caught in traps, etc. Trap mortality is a significant concern as predators like coyotes are often relentlessly persecuted in the Interior West and in Nevada. How many trappers would actually report an Eagle caught in a trap? I have encountered a dead Golden Eagle caught in a trap west of Jordan Valley Oregon.. Trapping non-target wildlife mortality is also a growing concern in Idaho, Montana in the Pacific Flyway, and to the east in Wyoming due to the barbaric state Gray Wolf killing and other predator persecution. The bottom line is that significant Golden Eagle and other iconic species mortalities may simply not be detected or reported in remote areas of the West where these species still manage to persist. There's a crumpled husk of a bird at the edge of a road – how many people in the West stop to see what it is? Then, even if someone stops, how many people report it to USFWS/State Game agencies? How many people drive along powerlines across this landscape and scan the ground for dead birds? Using the number of Golden Eagles USFWS knows have been killed to understand the number actually killed by non-natural causes is a fantasy. What really would be an estimate? 10 times as many as reported? 20 times as many? The USFWS simply cannot rely on the number reported in this LAP as any indicator of actual human-caused mortality "*Over the past 30 years, the Service knows of 300 golden eagles killed by a variety of causes within the LAP (**Appendix C**). This is approximately 14.29 golden eagles killed per year. This annual unpermitted take is approximately 1.8 percent of the LAP".*	Please refer to comment response 1.8. The unpermitted take summary presented in Appendix C represents an effort taken to document all known mortalities within the LAP to assess if local conditions might deviate from west-wide background estimates. The background golden eagle mortality estimates are from USFWS 2016a and USFWS 2016b. The USFWS is aware that unreported golden eagle mortalities routinely occur, but detailed analyses of banding and transmitter studies has been the process to use the best available information to estimate eagle mortalities range-wide. Please see USFWS 2016a and USFWS 2016b for an explanation about how a meta-analysis of available studies have been used to model golden eagle productivity in the U.S.
1	1.71	Katie Fite/Wildlands Defense	The USFWS EA greatly fails to establish a current environmental baseline for pretty much all elements of the environment and the threats Golden Eagles are facing in 2024. This EA relies on out-dated reliance on generalized old information – on everything from the climate analysis form a 2016 PEIS to actual 2023-2024 status and conditions trends of the GE population – including nesting productivity and recent failures of nests, eggs not hatching, chicks to surviving in Nevada – and the and full array of human-caused and associated threats this population is facing. This includes cumulative effects of a host of new or expanded mines.	Please refer to comment response 1.8. Baseline conditions are discussed in Section 3.0 of the EA, as well as in the respective ECPs for each project, which are included as Appendix A and B to the EA. See also USFWS 2016a and USFWS 2016b for details and context about how golden eagle population status and trends have been modeled. Specific climatic conditions encountered in Nevada in recent years are not necessarily outside of the USFWS range-wide analyses, and there is no current data available to suggest the overall golden eagle population in Nevada is in a steep decline.
1	1.72	Katie Fite/Wildlands Defense	The comparison in the alternatives table simply cannot be made without an adequate baseline being established.	See response to comment 1.71.
1	1.73	Katie Fite/Wildlands Defense	**Monitoring Concerns** With the NGM permits – what will the liability be if there is non-compliance? We are concerned about the political; power of NGM in Nevada diluting any compliance actions.	Please refer to comment response 1.21 regarding five-year review periods.

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			"NGM will monitor eagle territory occupancy and nesting activities using independent, third-party monitors that report directly to the Service annually. At five-year intervals, the Service will review the eagle data and other pertinent information, as well as information provided by NGM and independent third-party monitors, assessing whether NGM is in compliance with the terms and conditions of the permits and has implemented all applicable adaptive management measures specified in the permits and ensuring eagle take has not exceeded the amount authorized within that time frame. We will update fatality predictions, authorized take levels, and compensatory mitigation, as needed, for future years of the permits. If authorized take levels for the period of review are exceeded in a manner or to a degree not addressed in the adaptive management conditions of the permits, based on the observed levels of take using approved protocols for monitoring and estimating total take, the Service may require additional actions, including but not limited to adding, removing, or adjusting avoidance, minimization, or compensatory mitigation measures; modifying adaptive management conditions; modifying monitoring requirements; and suspending or revoking the permits". This should be done every 2 years. The third party monitors must be vetted by USFWS. NGM should supply funding for USFWS filed checks of monitoring effectiveness. In Nevada, hard rock mines have significant political power, and many agency NEPA analyses rely on many of the same contractors – and as the saying goes –they likely know who butters their bread.	
1	1.74	Katie Fite/Wildlands Defense	**Migratory Birds in 2024 – Declining Populations, Escalating Threats NOT Adequately Considered in EA** USFWS ignores the declines of migratory birds in North America and in the Great Basin, by claiming that the old mining EISs are sufficient for assessing 2024 impacts to migratory birds, impacted by the mines, in claiming compliance with the MBTA. See Dobkin and Sauder 2004, Rosenberg et al. 2019, Remington et al. 2021. USFWS should assess current habitat and population levels for declining species and the escalating existing and foreseeable threats as a baseline – in making any 2024 determination as to the adequacy of existing BMPs and/or mitigation. How bright and intrusive are mine lights – are there older lights that could be retrofit, so their intensity – and thus light pollution which may be harmful to migratory birds -be reduced? How much more sagebrush is still slated for destruction and/or fragmentation under the mine development EISs?	This EA is specifically addressing authorized activities conducted at the mines as they may impact eagles, not the authorizing EIS for the mines themselves. However, this EA tiers off the 2016 Eagle Rule PEIS (USFWS 2016a) which considered incidental take of Migratory Birds in section 3.5. Unauthorized take under the MBTA is prohibited; however, habitat loss itself is not directly regulated under the MBTA. The authorized take of eagles is not expected to result in adverse impacts to migratory birds.
1	1.75	Katie Fite/Wildlands Defense	USFWS should consider requiring sagebrush/shrub seeding and planting seedlings until some sagebrush actually is successfully established. As we describe in the McDermitt Caldera ACEC proposal an d GBRW an d WLD Solar EIS scoping comments (attached), sagebrush-dependent migratory birds are no also facing manor winter habitat destruction and loss due to reckless industrial solar development sprawl being aggressively promoted by the Haaland Interior Department. Many of these developments – as in the Mojave -are relatively recent -0so their effects are just beginning to bite. Plus, under this reckless industrial renewable energy sprawl (designed to keep energy in the hands of corporations and billionaires), is moving north. Sprawling solar plants are already proposed in and near the southern portion of the LAP area. See: Ely BLM Manager Sept. 2023 project reports, GBRW and WLD Scoping comments on the BLM Solar PEIS. On top of all the bulldozed Mojave solar projects wiping out critical wintering and other habitats for migratory birds, there is a frenzy of lithium speculation and exploration in southern Nevada in the Tonopah region and surrounding lands.	Benefits to eagles of compensatory mitigation must meet the Service's Preservation Standard of ensuring no net loss of eagles. Actions such as habitat restoration or land conservation banking have not, at this time, been demonstrated to quantifiably benefit eagle populations and do not meet the Service's management needs. Please refer to comment response 1.9.
1	1.76	Katie Fite/Wildlands Defense	The Center for Biological Diversity (CBD) has mapped active lithium projects in the West. Many of the active claims are in areas where sensitive migratory birds may winter. See CBD Lithium Claims Tracker website. https://www.google.com/maps/d/viewer?mid=1kq8TRUSMR97kg-XQ22kdQpE4IUT0Rj49&ll=38.52747840473932%2C-111.43918045000001&z=5	Issues raised by the comment related to lithium extraction projects are not applicable to the proposed incidental take permits, and are outside the scope of this EA. Please refer to comment responses 1.4, 1.8, 1.10, and 1.74.

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			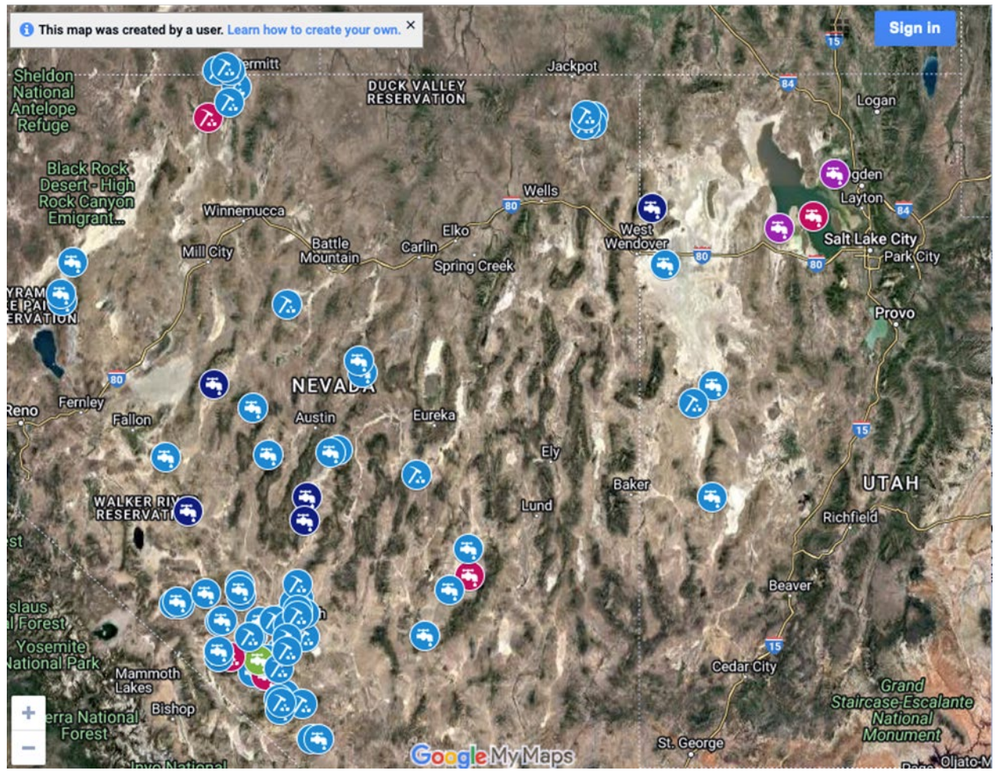 Western public lands face lithium claims chaos. (fall 2023 map). Here is a map of active Lithium claims alone in Nevada – spurred even more by EV subsidies and the IRA (Inflation Reduction Act. Yet USFWS states: "*Because the Cortez Project and Phoenix Project have not changed in scope, timing, or duration, no significant adverse effects to migratory bird populations are expected as a result of the issuance of the two permits (BLM 2003, 2008a, 2011a, 2012, 2015, 2018, and 2019). Issuance of eagle take permits to the Projects may also provide benefits to migratory birds. Power pole retrofits done as compensatory mitigation for the eagle take permits may minimize electrocution risk for raptors and other migratory birds, just as with eagles*".	
1	1.77	Katie Fite/Wildlands Defense	**The 2016 PEIS and 30-Year Take Permits** ABC commented on the 2016 PEIS re: 30-year permits "*the revised regulation does not allay our serious, legitimate concerns about the short- and long-term impacts that 30-year permits for large, commercial wind energy facilities, along with some of the other rule changes proposed by FWS, will have on eagle populations and other wildlife"*. The EA landscape is undergoing relentless change with huge looming threats – and thus here too we believe 30-year permits are much too long.	Please refer to comment response 1.8, 1.10, 1.21, 1.23, 1.61, and 1.67. Comments submitted on the draft 2016 PEIS were addressed in the final PEIS.

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			The ABC comment letter on USFWS 2016 Rule includes concern about 30 year take permits and justifications for it are relevant to the EA, describing: *"FWS (2016c, page xiii) stating: "[c]ompanies are more likely to weigh the benefits of obtaining a permit as higher than the risk of federal prosecution" when they can obtain long-term permits.) A dispassionate observer might be forgiven for concluding that FWS's new proposal, which never even acknowledges the rationale for its earlier 30-year rule, is still designed actually to accommodate the wind energy industry, rather than to protect eagles. In addition, the proposed new rule will not affect siting (the only current form of proven mitigation besides curtailment) in any way, as demonstrated in this FWS statement:* *"We recommend that developers avoid areas that are important to eagles. However, we do not have the authority to prohibit development in areas that are important to eagles. Our role is to evaluate the level of impacts to eagles when a project proponent approaches us to inquire about a permit to authorize eagle take. We do not have the authority to approve or veto the actual project" (FWS 2016b, page 74)".* Regarding this, ABC stated: "… contrary to the erroneous assumption underlying the proposed rule, it is clear that the government need not await the actual taking of an eagle but, rather, may undertake appropriate enforcement action to prevent harm to protected wildlife before it occurs". *"If, for example, the FWS knows that an industrial wind power project is being constructed in a location occupied by Bald or Golden eagles (as well as other migratory birds of conservation concern), it is not powerless to wait for animals protected by federal law and international treaties to be killed, injured, and otherwise "taken" by wind turbines, just as it need not sit idly by while bird baiting or other acts preparatory to an unlawful take occur*". The USFWS power and duty extends well beyond "recommending". ABC states*: "Neither the proposed rule nor the DEIS presents any evidence whatsoever to support FWS's central rationale that permits of longer duration will convince more companies to comply with BGEPA …".* Also: "*ABC also disagrees with the removal from the proposed rule of the concept of "advanced conservation practices," which require reducing take to the point where it is unavoidable. The proposed rule instead requires permittees to implement all "practicable" best management practices and other measures and practices that are reasonably likely to reduce eagle take*". And: *"Practicable" is defined as "available and capable of being done after taking into consideration existing technologies, logistics and cost in light of a mitigation measure's beneficial value to eagles and the activity's overall purpose, scope and scale".* Given the tremendous NGM (ultimately foreign miner) profiteering immensely off of public lands and having tremendous – and often permanent and irreversible -adverse impacts to wildlife, much more4 substantial mitigation than retrofitting power poles somewhere in the Pacific Flyway must be required. ABC also comments: "*Studies on the effectiveness of retrofitting power lines in reducing bird mortality have been mixed …".* This should be the responsibility of utility companies. It should not be considered the sole reasonable offset for mortality in an arid Great Basin landscape undergoing unprecedented adverse ecological changes – and where the post-2016 declines in the GE populations are resulting in serious concern. And any "recovery" – digging out of the decline with this long-lived species will take. Along time – let alone the flammable annual exotic grass, relentless grazing habitat degradation, and fast-escalating mining explo and development impacts in north-central and	

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			increasingly central Nevada and much of the West, and all the many stresses of climate change – as the world is already at, or blowing past, 1.5 degrees centigrade. Also, ABC noted: *"The Status Report, Bald and Golden Eagles: Status, Trends, and Estimation of Sustainable Take Rates in the United States, estimates population sizes, productivity, and survival rates; cumulative effects to local area populations; and effects of unauthorized take of golden eagles. The report is a science-based, final product. Accordingly, the Service is not seeking public comment on it."* (FWS 2016a, page 1)". *"If this study provides the scientific foundation for the revised rule, then it must be open for public comment. In addition, it is unclear whether the study was even peer-reviewed. If it was, then FWS should have stated that outside review by qualified, unaffiliated biologists with appropriate background in population modeling and assessment had done a review and found the methodology to be appropriate and the conclusions supported*" with an understanding of the unprecedented current battery of threats and the great difficulty of determining how much "take" is happening or is foreseeable to the population.. The link to the document that claims its findings would be "sustainable take" is here: https://www.fws.gov/media/population-demographics-and-estimation-sustainable-take-united-states-2016-update And: "*The Service also has a need to apply take values to nest disturbance and loss. We updated metrics for converting take via nest disturbance and nesting territory loss to debits from the EMU take limits for bald and golden eagles. The current policy is that for each instance of authorized take through disturbance in each year the nest is disturbed, the Service reduces EMU take limits by the median number of young that would have been expected to fledge from the disturbed territory. The updated median productivity values are 1.12 for the bald eagle (0.73 in the Southwest region only), and 0.54 for the golden eagle. By carrying forward the above debits from the EMU take limits for a period of years equal to the species or population-specific generation time (10 years for the bald eagle—12 years in the Southwest, and 11 years for the golden eagle), we also calculated a take value for nesting territory loss (i.e., the territory becomes permanently vacant)".* *In addition to setting EMU take limits, the Service has established local-area population (LAP) thresholds for permitted take when authorized take in a local area might have long-term negative consequences at that scale. The primary objective of LAP take limits is to minimize chances of extirpation of local breeding or wintering populations of eagles. The LAP take thresholds are cumulative, such that all ongoing Service- permitted take and any new take under consideration for a permit is taken into account …".* Also: "*This take is in addition to any existing ongoing unpermitted take that is occurring in the LAP. As such, the LAP take analysis is a form of cumulative effects analysis for each eagle take permit. Unlike EMUs, the LAP area is unique to each prospective permit and is defined as the area of the permitted activity bounded by the 90th quantile of the natal dispersal distance for golden eagles (109 mi), and the median natal dispersal distance of females for bald eagles (86 mi). The Service has identified LAP take-rates of ≥1% as being of concern, and rates of 5% being the maximum of what should be considered. We analyzed the effects of the 5% take threshold on LAPs for each species of eagle and showed that for bald eagles the additional take could result in a reduction of the equilibrium population size in the LAP area of 38%. For golden eagles, which currently appear to be at quasi-equilibrium, the 5% threshold could result in a decline of 80% to a new lower equilibrium. In both cases, extirpation of the local area population appeared unlikely under this policy". [*NOTE this is 8 year old information**]**. "*When authorized take exceeds EMU take limits, Service policy is that take must be effectively offset by compensatory mitigation such that there is no net increase in mortality. Currently, the only offsetting mitigation measure the Service has enough information to confidently apply in this manner is retrofitting of power lines to reduce eagle electrocutions (although the Service does consider other offsetting mitigation options on an experimental basis). Offsetting mitigation*	

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			is mostly an issue affecting take authorization for golden eagles, as EMU take limits are set at zero requiring all authorized take to be offset. Based on the cause-specific mortality rates analyzed, we estimated that 500 (20th quantile = 280) golden eagles are electrocuted in the U.S. annually. This estimate provides an indication of the number of golden eagle deaths the Service can expect to offset though electrocution abatement until proven methods to reduce other forms of mortality are available …". ['These numbers just don't seem an where in the ball park. They appear to drastically under-estimate powerline electrocutions in the real world- where Eagles may die away from any road a ross remote areas of the West, be electrocuted by powerlines running to center pivots on farms and never be reported, as just some of myriad ways this is a drastic under-estimate]. ABC also commented "*We also object to the proposal that the five-year "internal" review process will be closed to the public, tribes, and concerned conservation organizations. FWS is making no commitment to involve the public in any manner in the five-year reviews, and it is unclear whether information from these reviews will ever be publicly available, or if companies will be permitted to claim an exemption under Exemption 4 of the FOIA to avoid public scrutiny".* *"There must be new NEPA with public involvement and a full and adequate environmental and GE status baseline information presented. Any eagle mortalities detected should be posted on-line for the public in a very timely manner. Public participation and open NEPA processes will assist USFWS in eagle conservation, and provide ave3nucxes for new scientific expertise and relevant information on local conditions and significant ecological changes – from those outside an agency culture often of deference to industry – to more effectively conserve eagles, and will build better trust with the public)".* USFWS was hypocritical in justifying its 30-year permit schemes (according to ABC 2016 comments) : "*Furthermore, it thoroughly contradicts, without explanation, what the FWS said when it adopted the five-year maximum duration in 2009, i.e., that the "rule limits permit tenure to five years or less because factors may change over a longer period of time such that a take authorized much earlier would later be incompatible with the preservation of the bald eagle or the golden eagle."* (74 Fed. Reg. at 46,856, emphasis added)". ABC continues: "*The recently released FWS report (Millsap et al. 2016) is not good news for Golden Eagles:* *"We used banding data obtained from the United States Geological Survey Bird Banding Lab from 1968– 2014 to estimate contemporary age-specific survival rates. We also used a data set of unbiased cause-of- mortality information for a sample of 386 satellite-tagged golden eagles from 1997–2013 to estimate the effect of current levels of anthropogenic mortality on those survival rates. Anthropogenic factors were responsible for about 56% of satellite-tagged golden eagle mortality, but rates of anthropogenic mortality varied among age-classes, ranging from 34% for first-year eagles to 63% for adults. We estimated the maximum rate of population growth for the golden eagle in the U.S. in the absence of existing anthropogenic mortality was 10.9% (20th quantile = 9.7%). Sustainable take under these conditions is close to 2,000 individuals (20th quantile = 1,600). However, available information suggests ongoing levels of human-caused mortality likely exceed this value, perhaps considerably. Thus, the data from satellite tags lends further support to the suggestion from the demographic models that current survival rates may be leading to a decline in population" (FWS 2016b, p 13).* ABC states: "***FWS recognizes that: "Golden Eagle populations in the United States may not be able to sustain any additional, unmitigated mortality and the threshold for this species is zero."*** *(FWS 2016b, page 17). Yet, remarkably, FWS has still concluded that:* *"…some take [of Golden Eagles east of the 100th meridian] can be permitted with implementation of offsetting mitigation." (FWS 2016, page 7).* *These two statements are contradictory if the goal is a stable or increasing population over 100 years, particularly if offsetting mitigation does not work. It is especially contradictory if one considers the new goal that FWS is proposing*	

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			(which ABC supports) of "maintaining increasing populations in all eagle management units and persistence of local populations throughout the geographic range of both species." (FWS 2016b)". How often does USFWS broader monitoring of eagle populations take place? Once every 6 years. That too is absurd. ABC also commented and we heartily agree: "*Flyways should not be used as the unit of mitigation, for they are too large and ill-defined to serve as workable Eagle Management Units (EMUs)".* It is even more concerning that the proposed NGM "mitigation" – power pole retrofits – can occur anywhere in the western flyway. How in the world can "mitigation" this broad be justified biologically? USFWS on compensatory mitigation: *"Compensatory mitigation must ensure the preservation of the affected eagle species by reducing another ongoing form of mortality by an amount equal to or greater than the unavoidable mortality, or increasing the eagle population by an equal or greater amount*". https://www.fws.gov/service/3-200-71-eagle-take-associated-not-purpose-activity-incidental-take But what monitoring requirements (such as carcass searches), are required at wind facilities sited entirely on private lands – for example, many of the existing projects sprawling across the Snake River region of southern Idaho are on private lands. We are concerned that wind project mortality estimates (largely derived from consultant surveys) that USFWS bases its existing Eagle and migratory bird mortality data on are from searches that did not include dogs – whose carcass detection skills are far superior to humans. While large birds would be more obvious than songbirds or bats, it still is highly likely that digs would detect more GE carcasses – particularly if they were largely scavenged or dragged a bit of a distance. We are concerned that deeply flawed wind farm mortality estimates may foreseeably applied to the fast-tracked Stagecoach industrial, and other possible future wind developments in and near the NGM GE LAP. We note that it appears wind industry consultant WEST is involved in the Stagecoach process, and their recent work on the BLM Lava Ridge DEIS in Idaho Eagle habitat relied on reports from facilities that used dog-less carcass searches to arrive at flawed EIS estimates of bird and bat mortality. The EIS also omitted several important papers on foreseeable wind farm impacts. Consultants are often much too friendly with, and biased towards, the industry that pays them, but deft a wordsmithing documents and minimizing project impacts. This is a major concern with wind projects, mines, and industrial solar projects, – as consultants are often adept at masking the full extent of environmental harms and threats to wildlife including Golden Eagles in project EIS analyses. Thus, it is likely that the USFWS estimates of mortality for wind facilities in the Pacific Flyway, and potentially the foreseeable Stagecoach or other industrial wind projects that may arise in the LAP area, will be significantly under-estimated. Look at all the private land wind farms in Washington State, Oregon and California, and the private land windfarms in southern Idaho. **Adaptive Management Activities Should Only be to Improve, or Add to – Not Lessen, GE Protection Mechanisms** In reviewing FOIA documents (GBRW had to do a FOIA to learn of 6 more Pattern Energy Spring Valley Wind GE fatalities than had been publicly known. The FOIA documents also included records of Pattern Energy trying to lessen actions committed to for bats, as an example. Pattern sought to switch from shutting down/curtailing turbines when a certain number of bats leave Rose Guano Cave – to another less certain method. We are not certain if this happened. The scheme appeared very much to be profit-motivated.	

Comment Letter No.	Comment Number	Name/Entity	Comment	Response
			The NGM permits must prohibit any reductions in protections.	
1	1.78	Katie Fite/Wildlands Defense	**CUMULATIVE EFFECTS AND SERRIOUS THREATS TO LAP AREA AND REGIONAL EAGLES APPEARS GREATLY UNDER-ESTIMATED IN THE EA** The EA Cumulative Effects analysis states: "*The purpose of this cumulative effects evaluation is to identify situations where the eagle disturbance take proposed under the Proposed Action, combined with take from other past, present, or foreseeable future actions and sources, may be approaching levels that are biologically problematic or that cannot reasonably be offset through compensatory mitigation. Effects of take may be cumulative at the project scale, at the local-area eagle population scale, and at the EMU scale*". There is minimal EA baseline information provided about environmental conditions at any of the local, population, EMU scales – and in particular the local-area population and regional EMU scales, as we describe throughout these comments, and in discussion of cumulative effects. We believe the EA cumulative effects analysis does not constitute a hard look under NEPA, and cannot be supported as described below. USFWS also states: "*To ensure that eagle populations at the local scale are not depleted by cumulative take in the local area, the Service analyzed in the PEIS (USFWS 2016a) the amount of take that can be authorized while still maintaining LAP of eagles. The LAP scale is defined for eagles as the median natal dispersal distance for the given species, which for golden eagles is a 109-mile radius (USFWS 2016b). In order to issue a permit, cumulative authorized take must not exceed five percent of a LAP unless the Service can demonstrate why allowing take to exceed that limit is still compatible with the preservation of eagles. Eagle take permit regulations require the Service to conduct an individual LAP analysis for each permit application as part of the application review ,…".*	Please refer to comment 1.8, 1.10, 1.23, 1.61 and 1.67.

Public Comment Response Table

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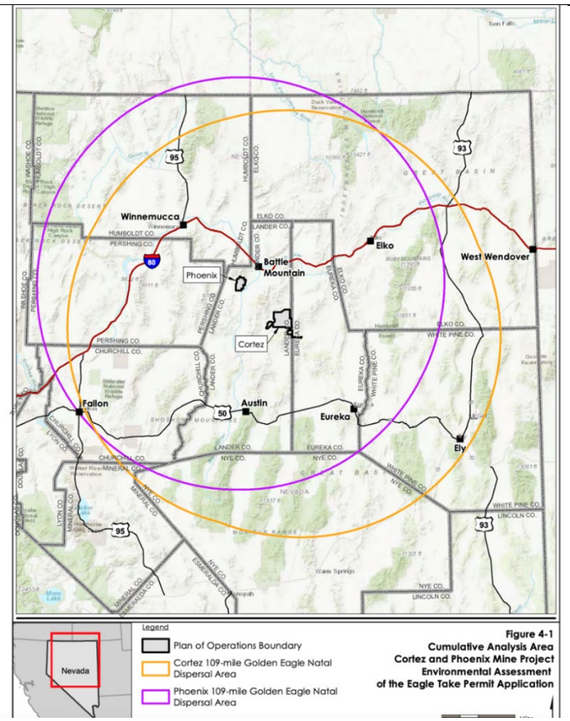
Comment Letter No.	Comment Number	Name/Entity	Comment	Response
1	1.79	Katie Fite/Wildlands Defense	 How many existing hard rock or other mines are within the cumulative analysis area?	Appendix C provides the LAP data used for permitted and unpermitted take.
1	1.80	Katie Fite/Wildlands Defense	This extends as far north as SE-most Oregon. It includes a bit of Oregon, perhaps extending as far as McDermitt Creek Basin area where Jindalee and Aurora Energy Metals uranium and lithium hard rock mining is proposed. See: https://www.counterpunch.org/2023/02/10/the-lithium-frenzy-is-an-ecological-catastrophe-for-oregons-high-desert/ https://www.counterpunch.org/2023/06/19/dispatch-from-the-lithium-mining-war-on-the-west-mcdermitt-creek-thacker-pass-and-beyond/ https://www.counterpunch.org/2023/10/25/hot-times-in-the-caldera/	Please refer to comment response 1.10 and 1.67.
1	1.81	Katie Fite/Wildlands Defense	Please see Attached WLD, GBRW and CBD ACEC proposal submitted to Nevada and Oregon BLM. We incorporate by reference the environmental concerns about the sagebrush ecosystem and disturbance impacts as many of these ecological issues and threats discussed apply across the LAP for this EA, and native biodiversity including the fate of the region's Golden Eagle habitats and populations.	Please refer to comment response 1.10 and 1.67.
1	1.82	Katie Fite/Wildlands Defense	How many existing high voltage transmission lines are located within the 109-mile LAP area. And where are they? How many more lines are proposed, and where? These lines facilitate major industrialization of vast areas of lands for industrial renewable energy How many existing "renewable" energy facilities lie in the LAP area?	Please refer to comment response 1.10 and 1.67.

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1	1.83	Katie Fite/Wildlands Defense	**New Proposed 2022 USFWS Eagle Rule May Make Matters Worse for the Birds** USFWS has issued a proposed rule for Golden Eagle take that could foreseeably increase harm to Eagles that must be considered in the EA cumulative effects analysis. https://www.fws.gov/press-release/2022-09/service-proposes-improvements-incidental-take-permit-process-eagles ABC described the pending 2022 proposed USFWS rule: https://abcbirds.org/news/eagle-rule-update-september-2022/ The rule must be fully analyzed as part of a hard look cumulative and foreseeable effects analysis for the mine take permits. *"A proposed rule announced today by the U.S. Fish and Wildlife Service aims to improve the permitting process for incidental take of eagles, but unfortunately weakens current safeguards for Bald and Golden Eagles just as they face increasing threats from new energy infrastructure. The Bald Eagle, our nation's symbol, needs strong protections as it continues its decades-long march back from the brink of extinction, while the Golden Eagle, likely in decline in North America, is particularly threatened by poorly sited wind energy development".* "*We applaud new protections for eagles from powerline electrocution," Grove said. "However, the rule fails to provide needed safeguards for eagles against threats posed by increased wind energy development." The proposed general permit for wind energy does not include adequate eagle protections nor require robust third-party compliance monitoring, according to ABC*". *"We also remain concerned about the lack of an overarching mitigation strategy to ensure balanced development, as well as inaction to eliminate major threats to eagles including lead and pesticide poisoning," Grove said.* ***"According to recent population estimates, Golden Eagle populations are likely declining in North America. There are serious concerns about population-level impacts from even modest increases in human-caused mortality."***	Please refer to comment response 1.10.
1	1.84	Katie Fite/Wildlands Defense	**Huge Industrial Solar Expansion** Now BLM is proposing a large-scale expansion of industrial solar on BLM lands nearly West-wide:	Issues raised by the comment about the proposed BLM Solar PEIS are not applicable to the proposed incidental take permits, and are outside the scope of this EA. Please refer to comment response 1.10 and 1.67.

Public Comment Response Table

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			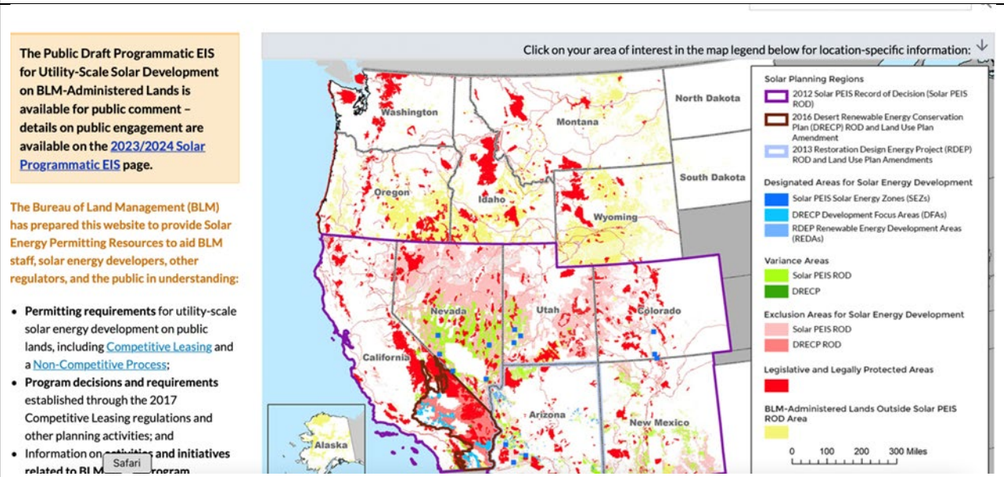 2023-2024 EIS https://blmsolar.anl.gov/solar-peis-2023/ . https://eplanning.blm.gov/eplanning-ui/project/2022371/570 Alternatives in this confusing PEIS document would enable industrial solar sprawl across immense additional acreage – pretty much all the “unprotected” lands in the Pacific Flyway.	
1	1.85	Katie Fite/Wildlands Defense	**Massive Stagecoach Wind Project Looming in LAP Lands** In 2023, Ely BLM withdrew 70,000 acres of public lands for the massive proposed Stagecoach industrial wind project. https://www.8newsnow.com/news/local-news/70000-acre-wind-farm-site-set-aside-in-nevada-by-blm/ . Stagecoach Wind BLM land segregation: https://www.federalregister.gov/documents/2023/10/03/2023-21741/notice-of-segregation-of-public-land-for-the-stagecoach-wind-project-white-pine-county-nevada Arevia’s application: https://eplanning.blm.gov/public_projects/2024245/200560118/20086876/250093058/SF%20299%2020230224.pdf “*The Project involves the construction, operation, and decomissioning of a wind energy generating facility, capable of generating 600 megawatts (MW) of capacity, on approximately 50,717 acres of Bureau of Land Management (BLM)-administered land in White Pine County, NV. Power would be delivered along a 27.9-mile-long 525 kilovolt (kV) generation tie-line connecting to NV Energy's Robinson Summit Substation with a 200 foot ROW. The ROW application contains a larger area than required for the wind facility to allow for adjustments in the facility layout to*	Issues raised by the comment pertaining to a proposed wind energy project are not applicable to the proposed incidental take permits, and are outside the scope of this EA.

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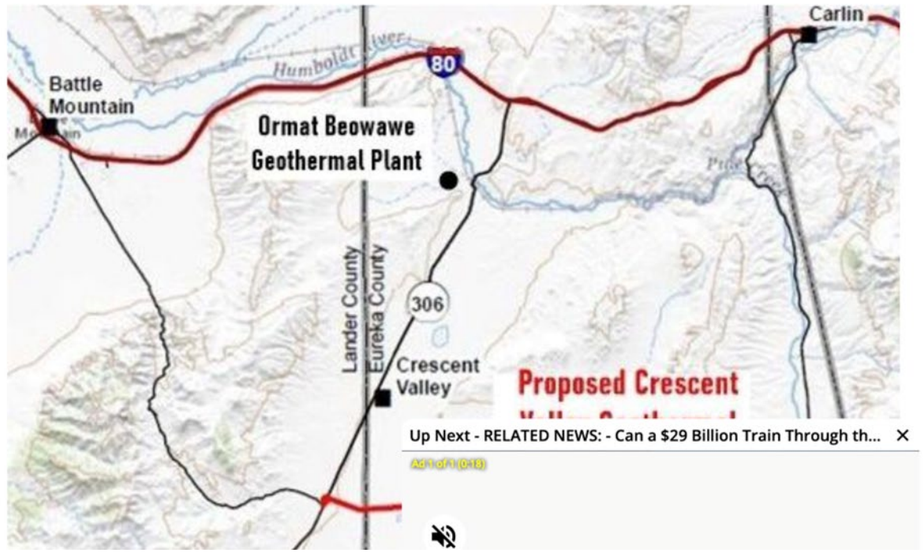
			The Application form says Arevia got a big investment $$$ infusion for wind and solar from KKR and another Co. in 2022. That's what is driving this -and Arevia solar. KK & R- is a global investment corporation. In googling, it appears KKR now is one of the major owners of Dollar General stores. They're also into real estate - helping drive the rent and housing crisis, pretty much like Blackrock. The other company infusing Arevia with funds is GCM, which evidently is "Greenbacker Capital Management". https://greenbackercapital.com/about-us/.	
1	1.86	Katie Fite/Wildlands Defense	**Wind and Solar Applications in Ely BLM 2023 Manager Report Illustrates looming Threats** **Renewable Energy Development** **White Pine Pumped Storage** White Pine Waterpower, LLC, a subsidiary of rPlus Hydro, has filed a final license application with the Federal Energy Regulatory Commission (FERC) for a closed-loop pumped storage hydropower facility. The proposed facility, which would be constructed in White Pine County north of Ely, received FAST 41 authority from FERC in March 2023. The White Pine Pumped Storage facility would provide up to 1,000 megawatts (MW) of electrical generating capability with an overall energy storage capacity of 8,000 megawatt-hours (MWh) per day by moving water between an upper and a lower reservoir to store the energy for later use. A new 25-mile, 345-kV single-circuit transmission line would extend from the project to the Robinson Summit substation. FERC will begin an environmental review and licensing process for the project with local, state, and federal agencies. The Bristlecone Field office is developing a Technical Working Group for wildlife, which will consist of representatives from the BLM, Nevada Department of Wildlife, White Pine County, and Sagebrush Ecological Technical Team. **Stagecoach Wind LLC Type 3** Arevia Power in March 2023 filed an application with the Department of the Interior under FAST-41 authority. The Arevia-proposed Stagecoach Wind Project would be located in south Newark Valley, about 40 miles west of Ely or 18 miles east of Eureka, Nev. U.S. Highway 50 would cross through the northern portion of the project area. A segregation notice suspending the entry of any/all other applications and/or claims within the project area for a two-year period was approved on Aug. 4, 2023. When complete, the 600-megawatt (MW) project would be the second and largest wind generation facility in Nevada. More at https://www.permits.performance.gov/permitting-project/fast-41-covered-projects/stagecoach-wind **Wind and Solar Applications** The Bristlecone Field Office continues receiving applications for solar and wind testing, and development. Development is prohibited under the 2015 Greater Sage Grouse Amendment within Greater Sage Grouse Priority Habitat. Testing is allowed on small, individual sites. Disposition of applications is starting with subsequent NEPA being developed and decision process on testing applications beginning. Projects include:  1. Arevia Power, Pantheon Solar Project. Jakes Valley. App rec'd 8/6/2020, Amended App rec'd 4/1/2021. Solar Type 2. Pantheon amended application	Issues raised by the comment are not applicable to the proposed incidental take permits, and are outside the scope of this EA.

Comment Letter No.	Comment Number	Name/Entity	Comment	Response
			1. Arevia Power, Pantheon Solar Project. Jakes Valley. App rec'd 8/6/2020, Amended App rec'd 4/1/2021. Solar Type 2. Pantheon amended application back to Type 3. Decision issued for Type 3 11/29/2022. The BLM is working with the proponent on the Variance Factor Analysis, which is outlined in the October 2012 Approved Resource Management Plan Amendments/ Record of Decision (ROD) for Solar Energy Development in Six Southwestern States. 2. Connect Gen Northwestern Wind II. Jakes Valley. App Rec'd 8/28/2020, Amended App rec'd 11/5/2020. Solar Type 2. Requesting one solar monitoring site, 3700-acre area. A decision is anticipated in August 2023. 3 3. Connect Gen Northwestern Wind II. Robinson Wind Project. Jakes Valley. App Rec'd 8/28/2020, Amended App rec'd 10/23/2020. Wind Testing. Requesting four met towers, 34,000 acres. Informed if towers under 200 ft CX otherwise an EA. Waiting for the proponent to decide. BLM Nevada State Office processing application as of 6/28/2022. A decision for five met towers is anticipated in August 2023. 4. Scout Clean Energy. Spring Valley. App rec'd 10/7/2021. Wind Testing. Requesting 3: 100-meter Met Towers, 2,965 acres project area, adjacent to Bashawabe TCP Review for level of NEPA required. 5. Balanced Rock Power Type 3. Sage City Solar Project. Jakes Valley. Amended App rec'd 12/29/21. POD submitted. Requesting 800MW PV solar plant, 500 KV line, 6,790-plus acres, being reviewed. Resubmitted a modified type three on 8/10/22. 6. Arevia Power. Aquilo Wind LLC. Snake Valley/UT border. App rec'd 2/7/2022. (Majority project area located in Utah). Amended/corrected App rec'd 6/8/2022 and application fee. Requesting nine MET towers, four in WP County, five in Utah. Coordinating app review w/Fillmore, Utah office. Revised app for NV emailed 8/29/2022. Working to re-site due to proximity	

Comment Letter No.	Comment Number	Name/Entity	Comment	Response
			Nevada State Office processing application as of 6/28/2022. A decision for five met towers is anticipated in August 2023. 4. Scout Clean Energy. Spring Valley. App rec'd 10/7/2021. Wind Testing. Requesting 3: 100-meter Met Towers, 2,965 acres project area, adjacent to Bashawabe TCP Review for level of NEPA required. 5. Balanced Rock Power Type 3. Sage City Solar Project. Jakes Valley. Amended App rec'd 12/29/21. POD submitted. Requesting 800MW PV solar plant, 500 KV line, 6,790-plus acres, being reviewed. Resubmitted a modified type three on 8/10/22. 6. Arevia Power. Aquilo Wind LLC. Snake Valley/UT border. App rec'd 2/7/2022. (Majority project area located in Utah). Amended/corrected App rec'd 6/8/2022 and application fee. Requesting nine MET towers, four in WP County, five in Utah. Coordinating app review w/Fillmore, Utah office. Revised app for NV emailed 8/29/2022. Working to re-site due to proximity to private land. 7. Pending. Great Basin Geo power. App rec'd pending. Requesting permit to drill to re-enter an existing well on the geothermal lease north of Cherry Creek to determine, depth, temperature and quantity of geothermal water sources. 8. Amerisco reached out on 10/4/22 requesting a preapplication meeting for solar energy application in Newark Valley approximately 40 miles west of Ely and along the proposed Greenlink North line. 9. NVN-101620 Sawtooth DevCo. Digital app rec'd 12/2/22. Type III. Requesting 45-year ROW for construction and operation of Tromso Solar Project. Solar energy generation and Battery Energy Storage System (BESS) to connect into the Robinson Summit Substation. The application is in a non-variance area. https://www.blm.gov/sites/default/files/docs/2023-08/District%20Manager%20Update_September%202023.pdf December 2023: https://www.blm.gov/sites/default/files/docs/2023-12/District%20Manager%20Update_December%202023.pdf	
1	1.87	Katie Fite/Wildlands Defense	Transmission Lines Greenlink North High Voltage Transmission Line: https://eplanning.blm.gov/eplanning-ui/project/2017033/510 https://eplanning.blm.gov/public_projects/2017033/200503894/20077458/250083640/Vicinity.pdf https://eplanning.blm.gov/public_projects/2017033/200503893/20080710/250086892/June%2015%202023.pdf The Crosstie transmission line (connects with the eastern end of Greenlink North): https://eplanning.blm.gov/eplanning-ui/project/2018636/510	Issues raised by the comment pertaining to transmission line projects are not applicable to the proposed incidental take permits, and are outside the scope of this EA.

Comment Letter No.	Comment Number	Name/Entity	Comment	Response
			There is also a huge new transmission line to be built -SWIP North- heading north from the Robinson substation - making vast areas of GE and GRSG habitat the entire north-south path of the line vulnerable to large-scale industrial remote-sited reckless renewable energy projects. Nevada is being carved up by new high voltage transmission lines. It is ground zero, and the EA LAP areas will suffer immensely. The proposed Greenlink North line is linked to the Crosstie line running east-west, and SWIP runs north-south to Idaho. E &E News reports on the BLM Solar DEIS show massive sacrificing of the sage brush expanses and valleys to these lines – with BLM targeting areas within 10 miles of high voltage transmission lines for solar industrialization. That means a huge 20 mile wide industrial habitat dead zone - often in the heart of sagebrush and salt desert shrub valleys critical for GE prey and migratory birds like Sagebrush Sparrow, Brewer's Sparrow, Sage Thrasher, Pygmy Rabbit, Loggerhead Shrike, Common Poorwill, Burrowing Owl, and also winter (or what BLM considers lower grade) Sage-grouse habitat. See: https://www.eenews.net/articles/blm-plan-aims-to-dramatically-expand-western-solar/?fbclid=IwAR2ll61EVgry2-pmSnXLIXbF-4s6WpzsZf_vAKT3u-70RO96Hc3iYmkJ7JQ BLM claims these targeted areas have high solar potential and "minimal" wildlife/plant conflicts – which in many cases will be dead wrong. The areas instead will actually be critical Golden Eagle prey species habitat year-round, irreplaceable habitat for nesting and wintering migratory songs birds as well as habitat for big game and Sage-grouse in winter, and big game and wildlife movement corridors. These are "variance" areas from an older 2012 EIS now termed "open". BLM seeks to amend BLM RMPs (land use plans) across 11 western states.	
1	1.88	Katie Fite/Wildlands Defense	**Geothermal Development Habitat Loss and Degradation Threat** There are currently two Ormat geothermal plant actions in this area open for comment. Crescent Valley: https://elkodaily.com/news/local/geothermal-project-planned-in-crescent-valley /article_09b30838-1544-11ee-8e7a-3b71c3abc14c.html Elko BLM: https://www.blm.gov/press-release/public-comment-invited-proposed-crescent-valley-geothermal-development-project-0 The other is exploration activity that may lead to expansion of an. existing plant. The proposed Crescent Valley Geothermal Project considers the construction, operation, maintenance and eventual reclamation of a geothermal energy production facility and associated transmission line totalling approximately 2,040 acres on public and privately leased lands. The transmission line would support an approximate 30-megawatt net rated geothermal power generating facility, operated by Ormat Nevada, Inc. The project would be developed south of Crescent Valley, Nevada, approximately 50 miles southwest of Elko, and located 25 miles south of Interstate 80 via State Highway 306. More information about the proposed project can be found on BLM's ePlanning website at: https://eplanning.blm.gov/eplanning-ui/project/2024416/510. Also, Battle Mountain BLM is preparing an EA for a deep drilling (no bottom limit) geothermal exploration project that is likely to lead to significant geothermal facility expansion: https://eplanning.blm.gov/eplanning-ui/project/2026320/510 Whirlwind Resource Confirmation Project Draft EA - 20231122_508.pdf (blm.gov)	Issues raised by the comment pertaining to geothermal energy production are not applicable to the proposed incidental take permits, and are outside the scope of this EA.

Comment Letter No.	Comment Number	Name/Entity	Comment	Response
			Geothermal project planned in Crescent Valley Jun 27, 2023  	

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			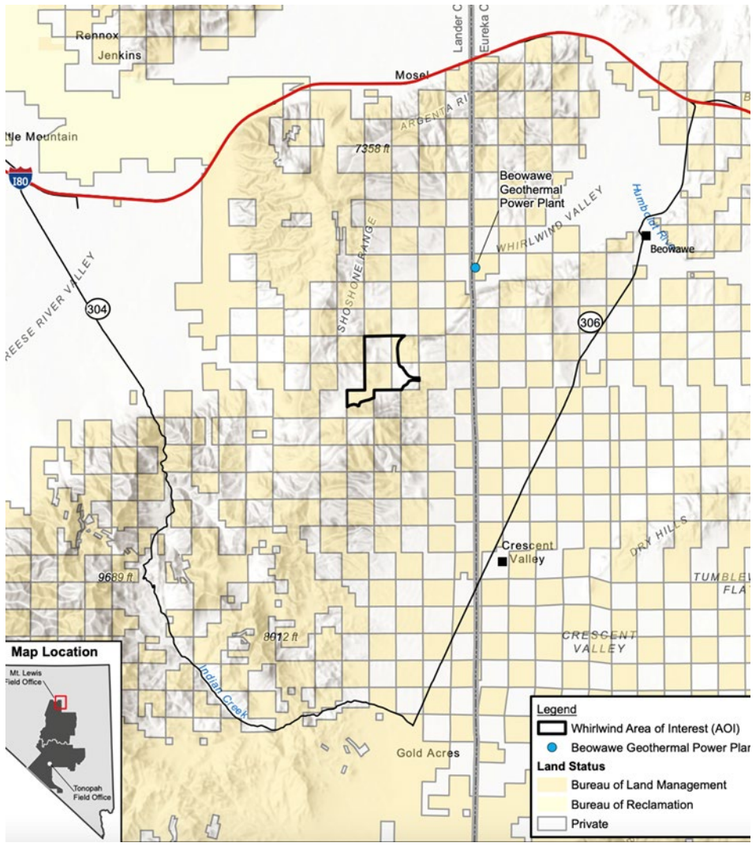 There is at least one Ormat plant in close proximity to Cortez, and more exploration underway. The LAP includes the ever-sprawling Ormat Grass Valley McGinness Hills between Austin and Crescent Valley plant, which - defying all currently available science was green-lighted by Battle Mountain BLM to be built amid irreplaceable Sage-grouse and other wildlife habitats including Golden Eagle habitat. That project and infrastructure has expanded in 3 phases, eating up more sagebrush habitat each time. 20180116_McGinness_Hills_FONSI_signed_508.pdf (blm.gov) . Much of this is enabled by DOE loans to this Israeli company with a Nevada arm. The company reps. tout "*satisfying … the DOE in order to qualify for the Section 1705 Loan Guarantee Program for long-term project financing*". https://publications.mygeoenergynow.org/grc/1030549.pdf Photos at that link show how this project fragments this critical sagebrush habitat. McGinness Hills Ormat Geothermal plant that already has expanded twice from its original size – with new transmission lines. A recent GRSG paper details harmful effects of geothermal facilities footprint on Sage-grouse.	

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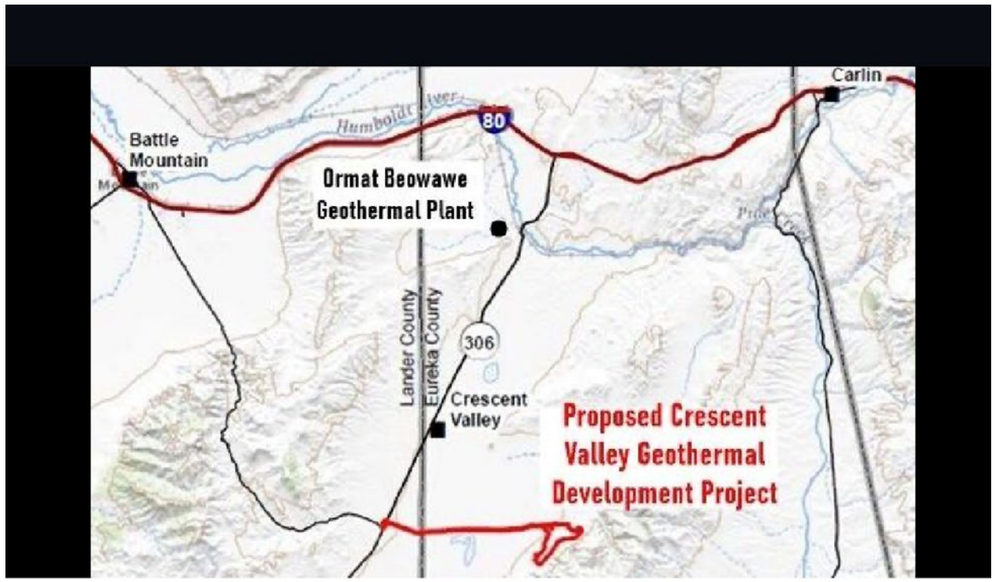
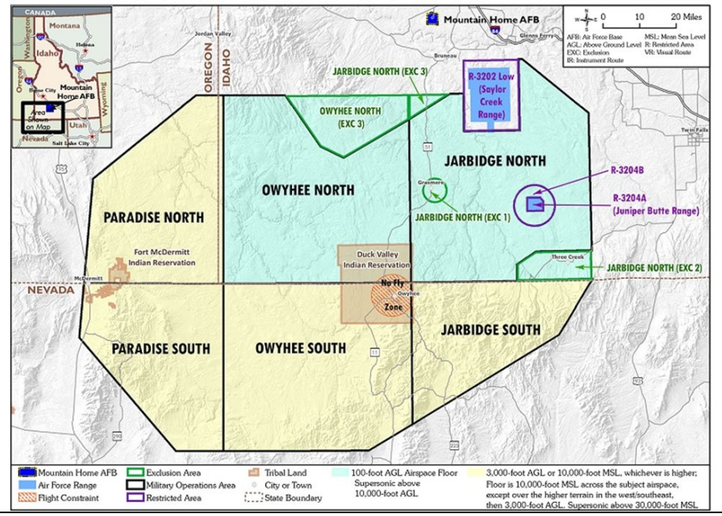
			Ormat Whirlwind exploration EA is at: https://eplanning.blm.gov/eplanning-ui/project/2026320/510 . Note reference to existing plant in Battle Mountain BLM eA. A Nevada state geothermal tax subsidy form shows that Ormat has 19 geothermal plants in Nevada. This is a tremendous amount of punching holes into aquifers, including very deep holes that may use processes similar to fracking, and potentially causing various forms of irreversible adverse impacts to waters, and variously altering or depleting sustainable flows or depletion. Beowawe. Elko BLM. https://elkodaily.com/news/local/geothermal-project-planned-in-crescent-valley/article_09b30838-1544-11ee-8e7a-3b71c3abc14c.html The proposed Crescent Valley Geothermal Project considers the construction, operation, maintenance and eventual reclamation of a geothermal energy production facility and associated transmission line totaling approximately 2,040 acres on public and privately leased lands. The transmission line would support an approximate 30-megawatt net rated geothermal power generating facility, operated by Ormat Nevada Inc.  How many more, or facility expansions, are proposed or foreseeable?	
1	1.89	Katie Fite/Wildlands Defense	**Disease Threat and Cumulative Impacts** Avian flu poses a threat to Golden Eagles. Rabbit Hemorrhagic Disease (RHD) is now sweeping the West, and has been documented in Nevada. This is highly lethal, highly transmissible, and the disease organisms persists in soils, and in the environment for long periods. The	Issues raised by the comment pertaining to wildlife diseases are not applicable to the proposed incidental take permits, and are outside the scope of this EA.

Comment Letter No.	Comment Number	Name/Entity	Comment	Response
			stale 2016 GE EWIS never looked at the potential catastrophic effect of this disease on the GE's prey staple in Nevada, the Black-tailed Jackrabbit. See Attached information on RHD.	
1	1.90	Katie Fite/Wildlands Defense	**Military Habitat and Disturbance Threats to Eagles and Migratory Birds** *Navy Fallon Expansion*. We note that a portion of the Navy Fallon War Game may lie within this area. Note that this area recently underwent a huge military Land Grab and range expansion. All manner of extreme noise may take p[lace, existing and new weaponry, etc. Noise – sonic booms. -low level flights aby all manner of War Plans as the US military (along with foreign militaries) "transits between ad "trains" over several millions of acres of air space. The military aerial war games include use of fire-causing flares. In fact. Navy Fallon has been responsible for significant fires in the Caln Alpine region. Although out of the cumulative impacts area, Klamath National Guard Kingsley airspace over Hart Mountain suffered a flare -caused fires. There have also been also many unexplained or "unknown" causes of fires in this region.	Issues raised by the comment pertaining to Department of Defense operations are not applicable to the proposed incidental take permits, and are outside the scope of this EA.
1	1.91	Katie Fite/Wildlands Defense	*Mountain Home AFB Supersonic EIS range expansion.* See WLD et al. ACEC proposal. Noise to 139 decibels will be expanded from Idaho MHAFB-associated MOAs to extend all over the SE Oregon and northern Nevada Owyhee canyonlands as well as to the south in the Quinn and Little Humboldt watershed region. This new zone of impact includes significant areas of canyons that will now suffer 100 ft. Above Ground level (AGL) overflights, and greatly lowered sonic boom levels down to 10,000 ft. AGL, plus flares can be used anywhere. The ROD selected alternative actions that drastically increase extremely loud low-level overflight and sonic boom noise – including a 100 ft. Above Ground level (AGL) flight floor in Oregon and Nevada. *Alternative 1: 100-Foot AGL Floor Across All MOAs (FEIS, Vol. I, §2.3.1, Tables 2.3-1 through 2.3-4, and Figure 2.3-1) All MOAs in the SUA associated with Mountain Home AFB would have 100-foot AGL subsonic operational floors. The Owyhee North and Jarbidge North MOAs already have 100-foot AGL subsonic operational floors. In the Paradise North, Paradise South, Owyhee South, and Jarbidge South MOAs, operational floors of 10,000 feet MSL or 3,000 feet AGL, whichever is higher, would change to 100 feet AGL. While this alternative would not directly involve increases in annual flights and sorties for Mountain Home AFB-based aircraft, it is likely that the number of sorties by other users throughout the airspace would increase over time due to the increased capability for conducting LOWAT.* The Air Force FEIS decision also greatly lowers supersonic flight levels and sonic booms in Oregon and Nevada: *Alternative B: 10,000-Foot AGL Supersonic Floor Across All MOAs* *(FEIS, Vol. I, §2.3.5, Table 2.3-12 and Figure 2.3-5) The supersonic altitude floor would be 10,000 feet AGL in all six MOAs (includes R-3202 and R-3204), with the exception that supersonic operations, would continue to be prohibited over the Duck Valley Indian Reservation. In the Paradise North, Paradise South, Owyhee South, and Jarbidge South MOAs the existing supersonic floor of 30,000 feet MSL would change to 10,000 feet AGL. The Owyhee North and Jarbidge North MOAs would continue to have a supersonic floor of 10,000 feet AGL".* In addition, just before the FEIS Decision Record was signed, Idaho news outlets reported on a separate new 2023 Air Force proposal for the National Guard to base F-16 War planes at Gowen Field using the Boise airport, and replace the existing A-10s based at Gowen. F-16s are louder than A-10s, use afterburners and fly supersonic, so they generate startling sonic booms and A-10s do not. Since the Idaho National Guard uses this tri-state airspace extending over a 7-million acre region of public lands (BLM and USFS), basing F-16s in Boise would further increase noise levels over the Owyhee -Bruneau-Jarbidge region of Northern Great Basin Sage-grouse habitats. The MHAFB Airspace Optimization FEIS did not appear to assess this significant change in war planes, which will result in even higher noise levels.	Issues raised by the comment pertaining to Department of Defense operations are not applicable to the proposed incidental take permits, and are outside the scope of this EA.

Comment Letter No.	Comment Number	Name/Entity	Comment	Response
			This vast military airspace encompasses nearly 7 million acres, and it looks like around 2 million acres (?) may occur in the LAP. Portions of Idaho that suffer these extreme noise levels now to be imposed on Oregon and Nevada have become degraded by chronic noise that interferes with human use and enjoyment of public lands, and doubtlessly impacts wildlife like California Bighorn Sheep and Sage-grouse. See EIS documents, and Record of Decision. Oregon Senators Wyden and Merkley had previously introduced an amendment to the NDAA that would have required an EIS study of Air Force noise level effects on Oregon Sage-grouse, but it apparently didn't make the cut for the Final NDAA legislation. See ONDA 11/1/2022 article: "Saving the Owyhee from Jet fighters, sonic booms and Flares". 
1	1.92	Katie Fite/Wildlands Defense	**Gold Rush Mine Effects** The BLM Gold Rush project web site cover page states: *"The Project would create a new Plan of Operations and would modify existing Plans for adjacent projects as a result of the new Plan of Operations for the Proposed Action. To create the new Goldrush Mine Plan boundary, NGM proposes boundary modifications and/or reclassification (moving disturbance acres from one mine category to another mine category) of acres within the following existing NGM-owned exploration and mine Plan boundaries: Horse Canyon Mine Plan (N-66896) administered by the BLM Elko District; Horse Canyon/Cortez Unified Exploration Project (HC/CUEP) Plan (N-66621) administered by the BLM Battle Mountain District; West Pine Valley Exploration Project Plan (N-77213) administered by the BLM Elko District; and use of existing infrastructure at the Cortez Mine (N-67575) administered by the BLM Battle Mountain District. No proposed boundary modifications or surface disturbance re-classification from the Cortez Mine Plan to the Goldrush Mine Plan would occur. Under the Proposed Action, the BLM would approve construction of the 120-kV power line (right-of-way requested by Wells Rural Electric Co.) with two switching stations and contact water pipeline would occur partially within the Cortez Mine Plan boundary and the proposed Goldrush Mine Plan boundary".* The Gold Rush ROD from Dec. 2023 does not appear to mention eagles. Shouldn't there be certain and binding mandatory language in the ROD that uses the word "shall" to lay out any protections claimed in the FEIS for eagles? See: 20231208_Goldrush_ROD&PlanApproval_SIGNED.pdf (blm.gov)	Please refer to comment response 1.17. The Gold Rush Project is proceeding with a separate incidental take permit request.
1	1.93	Katie Fite/Wildlands Defense	Gold Rush mine is being sandwiched into the increasingly industrialized Valley region. The footprint of hard rock mining is ever-expanding and eating up more habitat. The mines are now becoming packed in like sardines. There will now be a new bite taken out of the Golden Eagle habitat becoming increasingly degraded, fragmented and obliterated contiguous with the Cortez mine complex. There is so much habitat disturbance and destruction taking place in the 10-	Cumulative impacts from the eagle disturbance take proposed under the Proposed Action combined with take from other past, present, or foreseeable future actions and sources are analyzed in Section 4.1.2 of the EA. Please refer to the comment responses for 1.66 and 1.67.

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			mile local area /eagle survey area for the Cortez mine that it is hard to understand it all clearly. The broader cumulative impact 109-mile LAP region is poised to suffer massive renewable energy expansion of all types, transmission line sprawl, and many more mines. Soon much of the LAP will resemble the industrial zone-type ecodisaster unfolding in the Crescent Valley region. Note there are also Ormat geothermal projects in the Crescent Valley region too.	
1	1.94	Katie Fite/Wildlands Defense	The Gold Rush FEIS states: *"Proposed Action – For special status species protected under the Bald and Golden Eagle Protection Act, the Proposed Action would result in the removal of an additional 1,070 acres of foraging habitat. Eight golden eagle (Aquila chrysaetos) territories occur within one mile of Goldrush Mine Project disturbance, and NGM has committed to obtaining a U.S. Fish and Wildlife Service (USFWS) incidental Eagle Take Permit, including required USFWS mitigation. Increased human presence and noise may cause golden eagles to avoid areas adjacent to the Goldrush mine …*". And won't this also actually expand the disturbance footprint of the mine beyond the 1,070 acres??? "*Aerial raptor surveys would be conducted annually during the overall raptor breeding season utilizing the methods outlined in Pagel et al. (2010) for the life of the mine. The survey area would include the operations area plus a 10-mile buffer. The annual survey report would be provided to the BLM, USFWS, and NDOW. Additionally, NGM would implement their BBCS which addresses compliance with the Migratory Bird Treaty Act. NGM is coordinating with the USFWS and BLM on the appropriate survey distances and the development of an Eagle Conservation Plan and Eagle Incidental Take Permit. Should a permit be issued by USFWS, the Eagle Take Permit conditions would supersede any requirements provided by the BLM should they differ (e.g., survey distances)".* Also:*"If NGM chooses to operate in the absence of an Incidental Eagle Take Permit, a two-mile blasting buffer and a one-mile nest protection buffer would be implemented for all disturbance to protect eagles*". So – does this mean that once a "take" permit would be issued, the mine could blast away, "taking" birds during nesting season? *"Topographic features such as mountainous areas that include ridgeline and tops of slopes oriented perpendicular to prevailing winds or near ridge crests of cliff edges are features that are conducive to slope soaring and are attractive for golden eagles. The bald and golden eagle area of analysis encompasses several mountain ranges and valleys, including Cortez Mountains, Simpson Park Mountains, Toiyabe Range, Shoshone Mountains, Crescent Valley, Carico Lake Valley, Pine Valley, and Grass Valley. Saddles or low points on ridge lines or near riparian corridors may serve as flight paths"*. Many of these places are increasingly being developed for energy projects and/or mines.	Please refer to comment response 1.10. The Gold Rush Mine Project EIS was prepared under the jurisdiction of the BLM and is outside the scope of this EA. Section 2.0 of the EA provides details of what would be authorized under the proposed incidental take permits. In addition, Section 2.0, Section 4.0 and 5.0 of the EA provides details on monitoring and mitigation that would be required for the issuance of the incidental take permits.
1	1.95	Katie Fite/Wildlands Defense	The Gold Rush documents reference the project area including portions of East Buckhorn (never ever has even had a land health assessment process completed), Carico Lake and 2 other allotments. Fences can also be as a source of mortality if Golden Eagles collide with them – including while pursuing prey. Where are there livestock or other fences in the potential high-use eagle flight areas? Are any of these marked to reduce collision potential somewhat?	Issues raised by the comment pertaining to livestock fencing are not applicable to the proposed incidental take permits, and are outside the scope of this EA.
1	1.96	Katie Fite/Wildlands Defense	*"Wetlands and springs provide a reliable water source for eagle prey and, therefore, allow higher concentrations of eagle prey. Known water sources within the bald and golden eagle areas of analysis include 244 seeps/springs and eight perennial drainages. Ephemeral and intermittent drainages also occur throughout the bald and golden eagle area of analysis. Meadow habitats, agricultural alfalfa pivots, and pastures in Crescent Valley and Rocky Pass can support large populations of rodents and lagomorphs and serve as foraging grounds for golden eagles*". Also: "*Golden eagles frequently feed on carrion, which can be found along roads, especially during winter and even when live prey is available, golden eagles consume fresh carrion during nesting season (Kochert and Steenhof 2002). Roads within the bald and golden eagle area of analysis, particularly improved roads that allow vehicles to travel at higher speeds, represent potentially high-value golden eagle scavenging habitat".* Also:*"Annual golden eagle aerial and ground surveys have been conducted in the Goldrush Mine area from 2013 to 2021 (NGM 2020d; Western Biological 2021; Stantec 2021). The total number of nests surveyed increased annually from 2013 to 2017 due to an increased survey effort and survey area size, as well as increased searcher efficiency. In 2021, 70 golden eagle nests were surveyed in the bald and golden eagle area of analysis, of which seven were found to be occupied. Occupied nests included all nests that held eggs or young, or were attended by adult birds, particularly birds that appeared to be incubating or brooding during the survey period. Territories were considered occupied if at*	Please refer to comment response 1.17. Eagle populations associated with the proposed projects are described in Section 3.1.2 and 3.1.3 of the EA, as well as in the respective ECPs for each project, which are included as Appendix A and B of the EA.

<table>
<tr><th>Comment Letter No.</th><th>Comment Number</th><th>Name/Entity</th><th>Comment</th><th>Response</th></tr>
<tr><td></td><td></td><td></td><td>least one nest in the territory was occupied by golden eagles during the survey period. This definition of occupancy likely results in an underestimation of territory and nest occupancy, as breeding attempts that occur outside of the survey period would be missed. Nests were assumed to be a golden eagle nest based on the location, size …”.

From the Gold Rush FEIS at 3-8:

A summary of golden eagle nest surveys from 2013 to 2021 is presented in Table 3-2. No occupied golden eagle nests occurred within the Goldrush Mine Plan boundary in 2021.

Table 3-2 Summary of Nest Surveys from 2013 to 2021
<table><tr><th>Year</th><th>Occupied Golden Eagle Nests[1]</th><th>Unoccupied Golden Eagle Nests[2]</th><th>Total Surveyed Golden Eagle Nests[3]</th></tr><tr><td>2013</td><td>4</td><td>7</td><td>11</td></tr><tr><td>2014</td><td>14</td><td>34</td><td>48</td></tr><tr><td>2015</td><td>15</td><td>39</td><td>54</td></tr><tr><td>2016</td><td>9</td><td>63</td><td>72</td></tr><tr><td>2017</td><td>17</td><td>58</td><td>75</td></tr><tr><td>2018</td><td>15</td><td>57</td><td>72</td></tr><tr><td>2019</td><td>6</td><td>65</td><td>71</td></tr><tr><td>2020</td><td>12</td><td>64</td><td>76</td></tr><tr><td>2021</td><td>7</td><td>63</td><td>70</td></tr></table>Sources: NGM 2020d; Western Biological 2021; Stantec 2021
[1] Occupied Nest – A nest used for breeding in the current year by a pair.
[2] Unoccupied Nest – Those nests not selected by golden eagles for use in the current nesting season. This total also includes nests that were in-use by a species other than golden eagle.
[3] Totals do not include nests that could not be found or were not present.

Goldrush_Mine_Project_FEIS_October_2023_508.pdf (blm.gov)</td><td></td></tr>
<tr><td>1</td><td>1.97</td><td>Katie Fite/Wildlands Defense</td><td><u>BLM Vegetation Treatments Alter Habitat, Spread Cheatgrass in LAP Area</u>

There are also many already authorized BLM vegetation “treatments” in the LAP area – including in Ruby and Long Valleys, Newark Valley, and there have been recent PJ destruction projects near Crescent valley too – despite the large-scale loss of PJ habitat in mountain ranges to the east. These BLM projects are claimed to be “saving” Sage-grouse but in intentionally target sagebrush and/or destroy sagebrush or result in cheatgrass and other flammable weed proliferation in sagebrush and PJ communities. They are also dealing a devastating blow to Pinyon-Juniper communities, with very little to show for it, and are driving Pinyon Jay, a migratory bird, towards extinction. An ESA listing petition has been filed. Golden Eagles also forage in Pinyon-Juniper habitats – and one of the justifications we have often seen BLM use for these projects is that they are getting rid of “raptor perches”.</td><td>Issues raised by the comment pertaining to BLM habitat treatment projects are not applicable to the proposed incidental take permits, and are outside the scope of this EA.</td></tr>
<tr><td>1</td><td>1.98</td><td>Katie Fite/Wildlands Defense</td><td>The Enormity of the Hard Rock Mining Footprint in the LAP and Cumulative Effects Area

The Nevada state Mining Commission and Minerals Dept. issued a 2021 special report on major Nevada mines, and it includes maps. The number of mines has increased more since 2021 with the new approval of several since 2021 (Easy Junior site/Gold Rock and Gold Rush). Note too that water really is already at a crisis stage in many areas of the LAP– for example, the proposed Mount Hope mine just north of Eureka was found unlawful by a federal court in part due to the due to the <u>lack of water</u> available for mining. https://gbrw.org/our-work/mt-hope/

The Mining Commission Report:

MM2021_Major_Mines_2021.pdf (nv.gov)</td><td>Cumulative impacts are discussed in Section 4.1.2 of the EA. Please refer to comment response 1.8, 1.17 and 1.67.</td></tr>
</table>

Public Comment Response Table

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			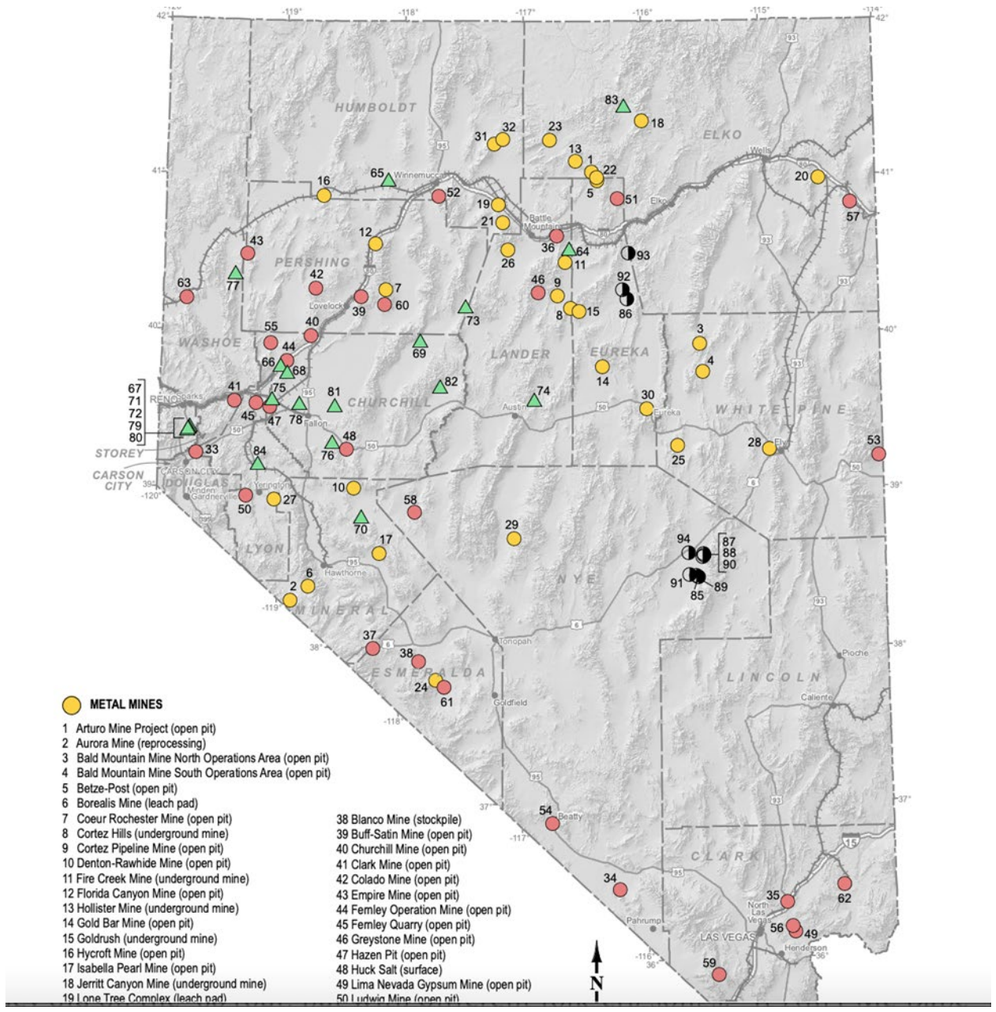 When one compares this map of NV mines to the USFWS Eagle Take EA “Cumulative Impacts” Map, one sees that there are an extraordinary number of major mines – along with all their associated infrastructure such as powerlines and access roads – in the EA’s 109-mile cumulative impacts area. More major mines have been recently approved, and do not yet appear on this list, and the existing mines are ever-expanding.	
1	1.99	Katie Fite/Wildlands Defense	On top of the existing mines is a huge amount of mining exploration drilling across Golden Eagle habitat, often with unassessed access route disturbance and other impacts ignored by BLM. Plus, with mining exploration there often is	Issues raised by the comment pertaining to other mining exploration activities are not applicable to the proposed incidental take permits, and are outside the scope of this EA.

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			no NEPA process at all. If the direct bulldozed/destroyed area disturbance is less than 5 acres, there is no NEPA conducted, and no public notification takes place. This is termed Notice level activity. First, 4.99 acres of disturbance, in reality, can have a large ecological disturbance footprint extending over dozens of square miles –as we sadly learned with the extensive Jindalee lithium exploration sagebrush habitat fragmentation and weed corridor expansion taking place at the McDermitt Creek Jindalee site in Golden eagle habitat – just a smidgen outside the 109-mile EA LAP area. Under BLM's mining exploration regs, 5 acres of disturbance can be significantly expanded -if "reclamation" of areas already drilled takes place. This expansion is allowed without any NEPA process and without public notice. BLMs definition of "reclamation" doesn't mean recovery of mature - or any -sagebrush or salt desert shrub vegetation that may have previously (pre-drilling) been present on a site. Instead, if some seed (which can be exotic livestock forage grass like crested wheatgrass) sprouts and grows for a year or so, BLM then proclaims the area is "reclaimed" at warp speed. BLM then subtracts that area from the total of "disturbance". This frees up the "reclaimed" area land disturbance acreage for application to new disturbance (roads, drilling) sites. These new areas in turn get bulldozed and drilled with no NEPA or public process. How many active drill sites are there across the 10-mile survey area, and the 109-mile LAP area? How many mine claims are there in these areas, and where are they located?	
1	1.100	Katie Fite/Wildlands Defense	**Huge Number of Hard Rock Mines - How many Current or Proposed with Eagle Take Permits? How Many Mines with No Permits? What Are Impacts in 109-Mile Take Permit Cumulative Effects Area** Here is a rough list of mines in the cumulative effects area from the Nevada Commission on Minerals, Division of Minerals 2021 report on Major Mines within the area shown on EA Map 4-1, cumulative impacts area. Please clarify if all the NGM mines in the Cortez region are covered under the Eagle Take EA. In reality, the USFWS EA cumulative effects area spans the large majority of the huge hard rock mines in Nevada. Several years ago, it was reported that if Nevada was a country, it would be the world's 3rd largest gold producer. Nevada's extremely arid, fragile landscape and its biodiversity and wildlife habitats are getting wrecked by this huge ever-expanding mining disturbance footprint. See: MM2021_Major_Mines_2021.pdf (nv.gov) Humboldt County: Hycroft, Lone Tree, Marigold, Turquoise Ridge, Granite Ridge (?) Eureka County: Betze Post, Carlin (eastern ops.), Gold Bar, Gold Rush #4, Crescent Valley, Maggie Creek, Ruby Hill Lander County: Argenta, Cortez hills, Fire Creek, Mountain Springs, Pipeline (Crescent Valley including Cortez Open Pit), Phoenix, Slaven North Elko County: Arturo, Hollister, Jerritt Canyon, Meikle, Midas, Rossi White Pine: Bald Mountain, Robinson (expanding).	Issues raised by the comment are outside the scope of this EA. Cumulative impacts are discussed in Section 4.1.2 of the EA.
1	1.101	Katie Fite/Wildlands Defense	Here is how many the Golden Eagles the ever-expanding Bald Mountain mine plans to be able to Take/Kill: *"SFWS Preferred Alternative* *"Under the USFWS Preferred Alternative, the USFWS would issue a permit with increased take authorizations and experimental compensatory mitigation measures. Under this alternative, the USFWS would authorize up to 27 incidents of golden eagle take resulting from disturbance consistent with the USFWS risk assessment for a period of up to 30 years to allow for take coverage to extend into the mine closure and final reclamation phases. As required by regulation, KG–BM would provide compensatory mitigation for authorized take and additional mitigation for nest removals. Under this alternative, KG– BM would have increased flexibility to implement its mining activities without*	Issues raised by the comment are outside the scope of this EA. Cumulative impacts are discussed in Section 4.1.2 of the EA. Section 2.0 of the EA provides details of what would be authorized under the proposed incidental take permits. In addition, Section 2.0, Section 4.0 and 5.0 of the EA provides details on monitoring and mitigation that would be required for the issuance of the incidental take permits.

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			potentially needing to alter mining operation or exploration plans". This is from a downloaded BLM EIS document. https://eplanning.blm.gov/eplanning-ui/project/2011567/510 Will USFWS do its own NEPA analysis of this estimated Golden Eagle kill? Is the mitigation also based on the stale USFWS 2016 PEIS and other documents from days of higher GE populations and/or reduced threats? Is this 27 Eagles over the entire 30 years? How are road kills and other mortality sources accounted for? What are the "experimental" measures referred to for the expansion of the Bald Mountain mine?	
1	1.102	Katie Fite/Wildlands Defense		Please refer to comment response 1.2, 1.21, and 1.67. Section 2.0 of the EA provides details of what would be authorized under the proposed incidental take permits. In addition, Section 2.0, Section 4.0 and 5.0 of the EA provides details on monitoring and mitigation that would be required for the issuance of the incidental take permits. Cumulative impacts are discussed in Section 4.1.2 of the EA.

Public Comment Response Table

Environmental Assessment for the Issuance of Long-Term Incidental Eagle Take Permits
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			 Road kill bird on the Bald Mountain mine Long Valley access road in summer 2021. How will this be account ted for in any “Take” permit? How many existing mines, and which ones, have Eagle take permits in the LAP area?	
1	1.103	Katie Fite/Wildlands Defense	Note that any primary access routes to hard rock mines will be quite “improved” – facilitating faster speeds – no matter what speed limit may be posted.	Tables 2-3 and 2-4 provide Conservation Measures taken by each mine to reduce the potential for direct mine-related mortalities, which addresses driving speed on mine sites.
1	1.104	Katie Fite/Wildlands Defense	Pershing: Coeur Rochester, Florida Canyon How many of these mines have current eagle take permits? How many eagles/how much eagle “take” do these permits cover? How many existing mines do not have Eagle take permits?	Issues raised by the comment are outside the scope of this EA. Cumulative impacts are detailed in Section 4.1.2 of the EA.
1	1.105	Katie Fite/Wildlands Defense	To the north, Thacker Pass lithium mining in the McDermitt Creek area of SE Oregon, and Uranium mining there too is all proposed. Lithium mining claims and projects are springing up all over Nevada and the Great Basin – posing a suddenly appearing new threat to Golden Eagle habitats, prey and populations.	Issues raised by the comment pertaining to lithium extraction projects are not applicable to the proposed incidental take permits, and are outside the scope of this EA.
1	1.106	Katie Fite/Wildlands Defense	At the same time, US warmongering and fomenting of global instability is helping keep the price of gold and other precious metals high. This promotes more proliferation of hard rock mines proposed or on the horizon, representing major new foreseeable large-scale destruction of habitats in some of the GEs most remote breeding areas as well as wintering areas in the West.	Issues raised by the comment pertaining to broader geopolitical concerns are not applicable to the proposed incidental take permits, and are outside the scope of this EA.

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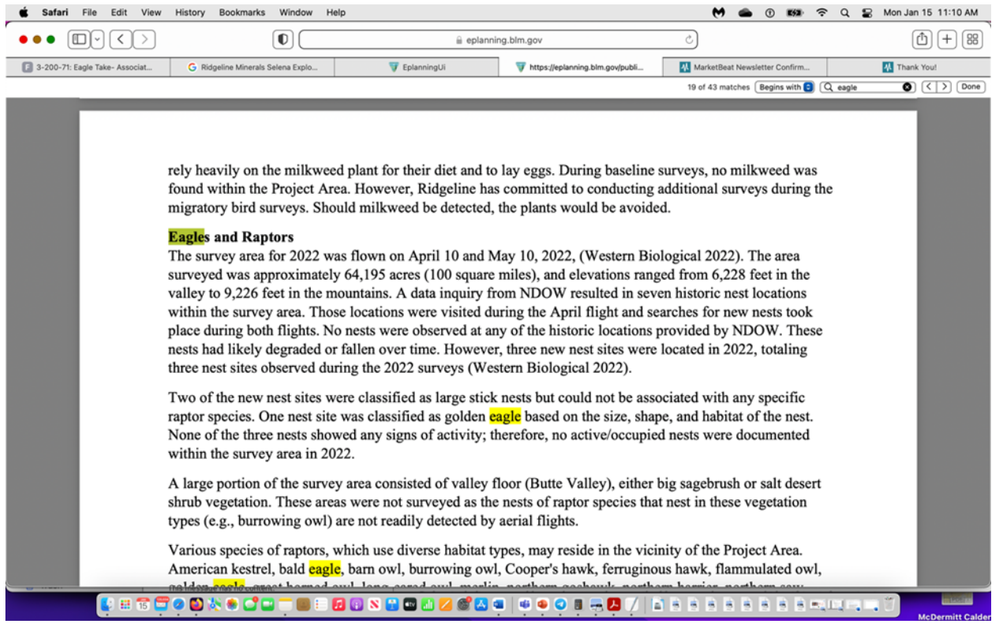
1	1.107	Katie Fite/Wildlands Defense	How many mining exploration projects are currently “active” in the 109-mile cumulative effects area? Or across Nevada on BLM and USFS lands?	Issues raised by the comment are outside the scope of this EA. Cumulative impacts are detailed in Section 4.1.2 of the EA.
1	1.108	Katie Fite/Wildlands Defense	We have long been dismayed at the attitude of some in Nevada BLM offices towards wildlife of all types, and this is reflected in mining, vegetation treatment, and other NEPA documents. The Cherry Creek” Selena” mining exploration project epitomizes the attitude: https://eplanning.blm.gov/eplanning-ui/project/2027206/510 “*4,552 acres (Proposed Action). The Notice-level disturbance is included in this Project Area. The Proposed Action would include exploration drilling, constructing drill roads, drill sites, drill sumps, use of overland travel, and reclamation. Approximately 200 acres of disturbance are proposed to occur in phases over 10 years*”. Disturbance in and around this project area is actually very prolonged – and in mining “exploration” terms this is a very large level of disturbance. Ridgeline Selena Preliminary EA 12.21.23.pdf (blm.gov)  No Ferruginous Hawk nests were observed either. Note: Ely BLM has been conducting a massive scorched earth PJ and sagebrush destruction and herbicide spraying project in the vicinity of Cherry Creek.	Issues raised by the comment are outside the scope of this EA. Golden eagle nest occupancy does not imply territory abandonment. While nest use (e.g., breeding attempts) might be related to disturbance, it is often related to habitat conditions and prey availability.

Public Comment Response Table

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			This encapsulates our experience with Ely BLM office – and we have seen - essentially – "animals can move elsewhere" more bluntly stated in the stack of massive vegetation manipulation documents: "There is sufficient habitat outside the project area where wildlife could disperse". See Ely BLM Ridgeline Selena mining exploration EA P. 21-22. The Ridgeline project lies within the project cumulative effects area in the Cherry Creek Range. How many other places in NV are suffering similar losses of GE nest occupancy as shown in the Ridgeline EA?	
1	1.109	Katie Fite/Wildlands Defense	Wyoming wind - although in a different Flyway, we must mnention that Wyoming is suffering an explosion of industrial wind energy development, in what biologists describe as extremely important GE habitats. The Wyoming habitats are also very important for wintering GE from populations that nest further north. And to the south, the Mojave and Mojave transition country is getting obliterated by industrial solar, with new transmission lines proposed or under development to facilitate vast new solar energy destruction of intact native vegetation communities and GE habitats.	Issues raised by the comment are outside the scope of this EA.
1	1.110	Katie Fite/Wildlands Defense	There are already over 20 mega-mines in the 109- mile cumulative impacts LAP area, and this number keeps rising. There is a huge looming "renewable" and transmission line energy development and disturbance footprint. This includes the 70,000-acre Stagecoach wind farm project being rammed through on a fast track – posing new risk and harm to the cumulative effects area population. The just-released BLM Solar DEIS proposes huge solar development and industrialization within 10 miles of either side of transmission lines. The LAP area is being slashed through with new high voltage transmission lines, plus the existing lines. Public land area a potential distance of 20 miles across all through basin valleys and range slopes is being plotted by the Interior Department to become sterile industrial fenced solar arrays obliterating and permanently destroying available Golden Eagle prey habitats. Also, many of the existing mines - and the two considered in the EA - are likely to undergo POO amendments or other expansion changes eating up the pieces of habitat within their current boundaries and/or expanding their footprint outside their existing borders.. This all highlights how biologically unjustified tiering to the outdated 2016 PEIS is; how issuing 30-year take permits is absurd; and the uncertainty of mitigation merely relying on powerpole retrofits somewhere in the Pacific Flyway would be - in this landscape that would be undergoing massive new development and that is currently being treated by the Interior Department as a Wild West for mega-renewable projects. USFWS must prepare an EIS that thoroughly grapples with the reality of habitat degradation and loss, and the foreseeable impacts to Golden Eagle populations.	Please refer to comment response 1.8, 1.9, 1.21, 1.61, and 1.67. Cumulative impacts are analyzed in Section 4.1.2 of the EA.
1	1.111	Katie Fite/Wildlands Defense	**Attachment to Eagle Take Comments** **Excerpts of some Additional ABC 2016 PEIS Comments - Adding tp Concerns about the Cortez and Phoenix EA Methods and Analysis** Since the EA tiers extensively to the 2016 PEIS, we are including portions of ABC comments on the EIS: "ABC fully understands that the proposed rule involves authorization of "non-purposeful" or "incidental" take of eagles and eagle nests. Those terms recognize that eagles will be killed by otherwise lawful activities associated with the wind energy industry and other industries. They should not be confused with "unanticipated." Wind energy developers and regulators both know that there is a near certainty that, when eagles are present in the same landscape for some portion of their lifecycle, some or even many eagles will be killed by collisions with wind turbine blades or collisions and electrocutions at their associated power lines and towers. Thus, when wind turbines are sited in areas with large concentrations of eagles, take can be expected to occur, and the distinction between "non-purposeful" or "incidental" and "purposeful" take becomes meaningless, as a practical as well as a legal matter. [This is relevant to the large new wind farm being fast-tracked that is proposed in the Cortez and Phoenix EA LAP landscape are}a.	Please refer to comment response 1.8, 1.9, 1.21, 1.63 and 1.67. Comments submitted on the draft 2016 PEIS were addressed in the final PEIS. The USFWS sent letters to 11 federally recognized Tribal governments within the 109-mile natal dispersal distance of golden eagles on February 13, 2023 to solicit comments on the proposed incidental take permits.

Comment Letter No.	Comment Number	Name/Entity	Comment	Response
			Indeed, the Bald and Golden Eagle Protection Act (BGEPA) imposes serious penalties on any conduct that involves a "knowing" "take" of Bald or Golden eagles without a FWS permit, as well as conduct that is pursued with "wanton disregard for the consequences" of the action. (16 U.S.C. § 668(a)). Thus, the change in the proposed rule from "non-purposeful" take permits to "incidental" take permits accomplishes nothing of substance with respect to the protection of eagles. 30-Year Permits: The Shifting Rationale**:** The FWS implemented BGEPA rules in 2009 and extended the permit length from five to 30-years in 2013 without going through the National Environmental Policy Act (NEPA) process or consulting with Native American tribes, both required by law. ABC's successful lawsuit required the Service to rescind the 30-year Eagle Take Rule and go back to the drawing board to formulate a more science-based approach to eagle management ((See Shearwater v. Ashe, No. 14-CV-02830-LHK, 2015 WL 4747881 (N.D. Cal. Aug. 11, 2015). FWS now proposes new BGEPA rules in the face of growing and multiple threats from a wide variety of anthropogenic sources of bird mortality (Loss 2015), including a rapidly expanding commercial wind industry and its associated infrastructure of power lines and towers. The proposed rules unfortunately stick with a 30-year permit regime, albeit for dramatically different reasons from those previously proffered. The first 30-year permit regime, albeit for dramatically different reasons from those previously proffered. The first 30-year rule was expressly designed to "facilitate the development of renewable energy and other projects in eagle habitat (77 Fed. Reg. 22,267, 22267, Apr. 13. 2012, emphasis added), on the ostensible rationale that the "uncertainty surrounding the renewal of programmatic eagle take permits was preventing operations from obtaining the necessary financing for wind energy projects that might last up to thirty years" 2015 WL 4747881, page 7). FWS further explained that the stated purpose of the Final 30-Year Eagle Take Rule was to "facilitate the development of renewable energy and other projects that are designed to be in operation for many decades," and to "facilitate the funding, construction, and operation of numerous energy generation projects, including wind power facilities" in areas occupied by eagles." [Quoting 78 Fed. Reg. 73,704, 73,704, 73,722 (Dec. 9, 2013)). That "development facilitation" rationale appears nowhere in the proposed new rule, which instead purports to be justified only by the *need to protect eagles* by enticing companies into a BGEPA permitting regime that the companies would otherwise avoid. Thus, the proposed rule states that: (1) the "Service cannot require any entity to apply for an eagle take permit (except under legal settlement agreements)"; (2) that "project proponents build and operate without eagle take permits even in areas where they are likely to take eagles"; and (3) "the Service believes that permitting long-term activities that are likely to incidentally take eagles, including working with project proponents to minimize the impacts and secure compensatory mitigation, *is far better for eagle conservation than having companies avoid the permitting process altogether because they perceive the process as overly onerous* (FWS 2016b, emphasis added; see also FWS (2016c, page xiii) stating: "[c]ompanies are more likely to weigh the benefits of obtaining a permit as higher than the risk of federal prosecution" when they can obtain long-term permits.)	

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			A dispassionate observer might be forgiven for concluding that FWS's new proposal, which never even acknowledges the rationale for its earlier 30-year rule, is still designed actually to accommodate the wind energy industry, rather than to protect eagles. In addition, the proposed new rule will not affect siting (the only current form of proven mitigation besides curtailment) in any way, as demonstrated in this FWS statement: "We recommend that developers avoid areas that are important to eagles. However, we do not have the authority to prohibit development in areas that are important to eagles. Our role is to evaluate the level of impacts to eagles when a project proponent approaches us to inquire about a permit to authorize eagle take. We do not have the authority to approve or veto the actual project" (FWS 2016b, page 74)". **30-Year Permits and FWS Enforcement of BGEPA** FWS's justifications for the proposed rule are inadequate and, in some cases, demonstrably false. To begin with, the FWS's premise that it "cannot require any entity to apply for an eagle take permit" (FWS 2016b, page 64) in advance of project construction and operation is not only unexplained but also incorrect. The same is true of FWS's proclamation that it can have no influence on siting. ABC has pushed for mandatory, not voluntary, permitting regulations for many years (Hutchins et al. 2016). Any wind energy facility built in an area known to be inhabited by federally protected species (i.e., eagles) during some portion of their life cycle should be required to obtain an incidental take permit under BGEPA prior to construction. FWS plainly has the legal authority under BGEPA (and the Migratory Bird Treaty Act, MBTA) in conjunction with other legal authorities to prevent an unlawful take from occurring…. Accordingly, contrary to the erroneous assumption underlying the proposed rule, it is clear that the government need not await the actual taking of an eagle but, rather, may undertake appropriate enforcement action to prevent harm to protected wildlife before it occurs. If, for example, the FWS knows that an industrial wind power project is being constructed in a location occupied by Bald or Golden eagles (as well as other migratory birds of conservation concern), it is not powerless to wait for animals protected by federal law and international treaties to be killed, injured, and otherwise "taken" by wind turbines, just as it need not sit idly by while bird baiting or other acts preparatory to an unlawful take occur. FWS is therefore wrong in asserting that it lacks any authority to "prohibit development in areas that are important to eagles," and that the most it can do, is "recommend" that a company not build its project in a high-risk site that will predictably kill eagles and/or other migratory birds in flagrant violation of federal law. [Yes, we realize that prohibiting mining is an impossibility, but the USFWS has important powers it can use to better protect Eagles - including here by requiring more substantial mitigation, and things like committing to a new public NEPA process NEPA every 5 years, publicly reporting known annual "take" for all projects in the LAP, or other measures. Prevention of harm to protected wildlife is particularly important during construction and operation, especially given the government's record of after-the-fact enforcement. Prosecutions for killing eagles and other protected bird species have been negligible. Only three wind energy companies (Duke Energy, PacifiCorp and AES Laurel Mountain LLC) have been prosecuted and fined for killing federally protected birds–a small fraction of the hundreds of U.S. wind energy facilities that have likely been violating federal law with impunity (Clarke 2014b). Even the DEIS concedes that a 2013 analysis "showed that wind-turbine deaths of Bald and Golden Eagles have been documented at least at 35 wind-energy facilities besides Altamont in 14 states" (DEIS, Page 172). Moreover, the companies have settled for what are miniscule fines for major corporations–hardly the kind of penalties likely to deter large corporate entities such as Duke	

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			Energy from violating BGEPA or, most important, to motivate them not to build their projects in important eagle habitat…. … [U]nder the FWS's current voluntary system, incidental take permits are not required, but taking an eagle without a permit is illegal. The critical question then is, how is FWS going to find out if protected species have been taken, since, except in Hawaii, it relies solely on the regulated industry to volunteer that they have broken the law? While enforcement risk is minimal, wind energy developers can theoretically be fined, prosecuted, or face expensive mitigation or compensation should they kill federally protected species. Consequently, reliance on voluntary industry self-monitoring and reporting is guaranteed to ensure under-reporting of eagle deaths and injuries. No for-profit industry can be effectively regulated based solely on voluntary self-monitoring and -reporting of wildlife crimes. Reporting and monitoring must be mandatory and carried out by neutral third parties rather than by the regulated companies themselves or consultants who are beholden to them for their livelihoods. Otherwise, credibility will always be an issue…. Individuals who kill federally protected eagles or possess their parts can be fined as much as $250,000 per bird and spend up to two years in jail (Frauenfelder 2009). The FWS's revised rule, however, gives the wind industry a free pass to kill thousands of eagles with little or no consequence. What's more, the public is not going to be able to find out how many eagles are actually being killed …". **Wind Energy Development and Climate Change** This Administration, some segments of the public, and even some conservation organizations seem to be treating large scale, commercial wind energy as if it were our only hope to address global climate change. In fact, there are many other alternative approaches, such as forest, soil, ecosystem, and biodiversity conservation, energy efficiency, reduction in meat consumption, and distributed solar on our already-built environment that would be just as effective, but not have the same destructive impacts on wildlife as large, commercial wind projects. Even the DEIS recognizes that the contribution of wind energy to addressing climate change will be minimal at best: If the volume of development increases over what it would have been without the new permit regulations, then the increased amount of fossil fuel emissions that are replaced by wind energy production could provide a greater beneficial impact of the proposed action, although in the context of planetary emissions the impact on climate change would still be minor. (FWS 2016c, page xiii). ABC questions whether the sacrifice of millions of our Nation's ecologically important birds and bats justifies building any large, commercial wind energy facility in an area with high concentrations of birds and bats. The ecological services—pest control, pollination, and seed dispersal–that birds and bats provide are worth billions to the U.S. economy (Sekercioglu, 2015, Sekercioglu et al. 2016). Yet, many of North America's bird species are in precipitous decline, with over a third in need of concerted conservation action (North American Bird Conservation Initiative 2016). We should remember that hydroelectric dams were once touted as our Nations' answer to clean, renewable energy, but are now being torn down due to their unexpected negative impacts on wildlife (e.g., salmon) and their habitats (Howard 2016, Yaggi 2016). Poorly-sited large, commercial wind facilities have a similar profile. In addition, the Department of Energy, FWS, and the wind energy industry should be supporting the development of bladeless, bird- and bat-friendly wind energy technology. Many examples of innovative approaches to wind energy are being developed by entrepreneurs (e.g., Grover 2015, Anon. 2016, www.Sheerwind.com).	

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			Also: https://abcbirds.org/wp-content/uploads/2016/06/Comment-on-Revised-Eagle-Rule-Final-on-Letterhead1.pdf **Apache Comments Relevant to the Take Permit EA and the LAP Landscape** *"ITAA has been, and continues to be, very concerned with the Service's ever- broadening proposals for Eagle take which appear to be disproportionately permissive towards development, do not adequately protect Eagles, and upset the delicate balance struck by Congress under the Bald and Golden Eagle Protection Act ("BGEPA") to truly protect Eagles".*	