# Finding of No Significant Impact

for the Issuance of an Eagle Take Permit for
the Amended Mine Plan of Operations for the Gold Bar Mine

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**Nevada**

**October 2022**


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# Introduction

The United States Fish and Wildlife Service (Service) received an application from McEwen Mining Inc. (Applicant) requesting eagle take coverage under the Bald and Golden Eagle Protection Act (Eagle Act) (16 United States Code [U.S.C.] §§ 668–668d and 50 Code of Federal Regulations [CFR] § 22.80) for incidental take of eagles at the Gold Bar South expansion, under the Amended Mine Plan of Operations for the Gold Bar Mine (Project; BLM 2022). The Project includes construction and operation of facilities that will encompass approximately 213.3 acres of additional, new surface disturbance on public land for the expansion of surface mining with the Gold Bar South open pit. Disturbance to eagles could occur from the noise associated with open-pit mining, as well as from the presence of people, mining equipment, and other activities associated with development blasting and waste rock and ore hauling. The Project is located approximately 30 miles northwest of Eureka, Nevada, in the southern Roberts Mountains in Eureka County, Nevada. The Applicant requested a short-term (two year) incidental eagle take permit (permit) for the disturbance to, and loss of annual productivity from, one golden eagle (*Aquila chrysaetos*) breeding pair; including four golden eagle nests associated with one territory, all located within one mile of the Project. 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 NEPA, the Service prepared an Environmental Assessment (EA) analyzing the environmental consequences of issuing a permit for the disturbance take of golden eagles associated with the Project, as well as alternatives to this proposed action. This EA is incorporated by reference and attached (Attachment 1). This EA assists the Service in ensuring compliance with NEPA and in making a determination as to whether any "significant" impacts 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 (EIS). Determining if effects are "significant" under NEPA is addressed by regulation 40 CFR § 1501.3(b), and requires analysis of the degree of effects of the action, including short- and long-term considerations and beneficial and adverse effects, as well as considering the affected area and its resources.

The Service's purpose in considering the proposed action of issuing an eagle incidental take permit 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 eagle incidental take permits so that their projects may proceed without potential violations of the Eagle Act. The Service may issue eagle take permits for eagle take that is associated with, but not the purpose of, an activity. Such permits can be issued by the Service 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 and 81 Federal Register 91494).

The need for this federal action is a decision on an eagle incidental take permit application from McEwen Mining Inc. that is compliant with all applicable regulatory requirements set forth under the Eagle Act in 50 CFR § 22.

# Proposed Action and Alternative 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 an incidental eagle take permit, with associated conditions, to McEwen Mining Inc. for disturbance to, and potential loss of annual productivity from one golden eagle breeding pair territory, which encompasses four nests, over two years. The permit would require implementation of all conservation measures and commitments described in the Applicant's submitted permit application.

## Alternative 1: No Action

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

# Public Scoping and Tribal Coordination

Scoping regarding issuance of eagle take permits was performed for the PEIS (USFWS 2016). Additionally, this Finding of No Significant Impact and attached EA will be published on the Service's regional webpage.[1]

To notify Tribes regarding potential issuance of the permit, the Service sent letters to eight federally recognized tribal governments located within the vicinity of the Project, informing them of the received permit application, the preparation of the EA, and offering the opportunity for formal consultation regarding potential issuance of the permit. The Service was not contacted by any of the above tribal governments.

# Selected Alternative

Based on review of the analyses detailed in the EA, the Service selected the Proposed Action of issuing an incidental eagle take permit to McEwen Mining Inc. for disturbance to, and loss of annual productivity from one golden eagle breeding pair territory, which encompasses four nests, over two years.

[1] https://www.fws.gov/cno/conservation/MigratoryBirds/EaglePermits.html

Disturbance take of golden eagles is predicted to occur under both alternatives; however, the Proposed Action fully offsets the take with required compensatory mitigation, which would not occur under the No-Action Alternative.

The Proposed Action is consistent with the purpose and need for this Federal action and is compliant with all statutory (16 U.S.C. §§ 668) 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, NEPA regulations 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 most likely to be affected by the Proposed Action of issuance of the requested eagle take permit. One known territory occurs within one mile of, but not directly within, the Project boundary. One golden eagle pair nesting in the vicinity of the Project may be disturbed by the Project 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 have not been identified within the Project area; therefore, bald eagles are not expected to be affected by mining activities associated with the Project. However, bald eagles may benefit from reduced electrocution risk due to the power pole retrofitting to be done 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.

Additionally, the Applicant has committed to implementing conservation measures to reduce potential impacts to migratory birds within the Project boundary.

Authorizing incidental eagle take for the Project site is not expected to have effects to species protected by the Endangered Species Act (ESA). Furthermore, no species listed under the ESA were found to be present in or near the Project area.

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

1) *Both short- and long-term effects.*

Issuance of an eagle take permit for the Project 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 the project, local, and regional scales, and at varying temporal scales.

**Short-Term Effects.** Under the Proposed Action, the issuance of an eagle take permit would authorize disturbance take and loss of productivity of one golden eagle pair for two years. However, the Applicant will implement measures to minimize disturbance to the eagles and no golden eagle nests would be physically removed as a result of the Proposed Action. Analyses provided in the EA indicate the authorized take will have no significant effect on the local or regional eagle population.

**Long-Term Effects.** Despite short-term disturbance to the eagle pair the project activities are not expected to have 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 these incidental eagle take permits, now and into the future. Furthermore, surveying and monitoring of the golden eagle pair that would be required under the Proposed Action provides information and increased certainty in our future assessments of the risk to eagles

from similar mining 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. Pole retrofits are also expected to benefit bald eagles and other raptors that may be susceptible to electrocution. Furthermore, required monitoring of the eagle nest will be beneficial as it will support the Service's understanding of impacts from mining activities in the vicinity of nesting golden eagles.

**Adverse Effects.** As described in the EA, under the Proposed Action the Applicant would implement conservation measures to minimize the risk to eagles. However, loss of breeding productivity of one golden eagle pair in the vicinity of the Project may occur due to disturbance from mining activities. The Applicant will offset this golden eagle take through compensatory mitigation. This will ensure that the impacts of issuing an eagle take permit on the local and regional golden eagle populations 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.

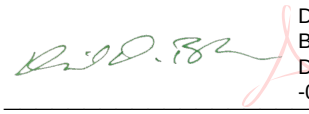
4) *Effects that would violate Federal, State, Tribal, or local law protecting the environment.*

The Proposed Action, issuance of an incidental take permit under the Eagle Act, will not violate any federal, state, tribal, or local law.

# Finding of No Significant Impact

The Service's Migratory Bird Program concludes from the analysis conducted in the EA and the information provided above that the Proposed Action would not trigger significant impacts on the environment based on considerations and criteria established by regulations, policy, and analysis. Analyses of impacts were conducted at the Project, local, and regional scales, and the degree of effects were assessed. The selected Proposed Action is unlikely to have significant impacts on eagles because all reasonably foreseeable take of eagles is mitigated and the Proposed Action meets the Eagle Act's preservation standard (16 U.S.C. §§ 668a, 50 CFR § 22.6) and all regulatory requirements (50 CFR § 22.80). Based on the findings discussed herein, we conclude that the Proposed Action will have no significant impact on the environment and is not a major Federal action significantly affecting the quality of the human environment pursuant to Section 102(2)(C) of NEPA (42 U.S.C. 4332(2)(C)). Therefore, we are not required to prepare an EIS to further

analyze possible effects, and our environmental review under NEPA is concluded with this finding of no significant impact (40 CFR 1501.3, 43 CFR 46.325).

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# References

16 United States Code (U.S.C.) § 668. Title 16 - Conservation; Chapter 5a - Protection and Conservation of Wildlife; Subchapter II - Protection of Bald and Golden Eagles; Section (§) 668 - 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 Implementing 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.) §§ 4321-4347. Title 42 - The Public Health and Welfare; Chapter 55 - National Environmental Policy; Subchapters I (Policies and Goals) and II (Council on Environmental Quality); Sections (§§) 4321-4347. Available online: http://uscode.house.gov

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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

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# Attachment 1

Environmental Assessment for the Issuance of an Eagle Take Permit for the Amended Mine Plan of Operations for the Gold Bar Mine.

**U.S. Fish and Wildlife Service**

# Environmental Assessment

## for the Issuance of an Eagle Take Permit for the Amended Mine Plan of Operations for the Gold Bar Mine

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## Nevada

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## APPENDICES

Appendix A Eagle Conservation Plan

## ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| **ACEPM** | Applicant-Committed Environmental Protection Measure |
| **amended Plan** | Amended Mine Plan of Operations for the Gold Bar Mine |
| **Applicant** | McEwen Mining Inc. |
| **BLM** | Bureau of Land Management |
| **CFR** | Code of Federal Regulations |
| **Eagle Act** | Bald and Golden Eagle Protection Act |
| **EA** | Environmental Assessment |
| **EIS** | Environmental Impact Statement |
| **EMU** | Eagle Management Unit |
| **ESA** | Endangered Species Act of 1973 |
| **GBP** | Gold Bar Proper |
| **GBS** | Gold Bar South |
| **LAP** | Local Area Populations |
| **MMI** | McEwen Mining Inc. |
| **mph** | Miles Per Hour |
| **NDOW** | Nevada Department of Wildlife |
| **NEPA** | National Environmental Policy Act |
| **NHPA** | National Historic Preservation Act |

| | |
|---|---|
| **PEIS** | Programmatic Environmental Impact Statement |
| **Project** | Gold Bar South Expansion |
| **Project area** | Gold Bar South Boundary and a Surrounding 10-mile Radius |
| **REA** | Resource Equivalency Analysis |
| **Service** | United States Fish and Wildlife Service |
| **SWReGAP** | Southwest Regional Gap Analysis Project |
| **U.S.** | United States |
| **U.S.C.** | United States Code |

# 1.0 Introduction

This Environmental Assessment (EA) analyzes the environmental consequences of the United States (U.S.) Fish and Wildlife Service (Service) issuing an incidental take permit for the take of golden eagles (*Aquila chrysaetos*) associated with the Amended Mine Plan of Operations for the Gold Bar Mine (amended Plan) to increase the authorized Gold Bar Mine boundary (herein referred to as Gold Bar Proper [GBP] to include the Gold Bar South (GBS) expansion (Project) pursuant to the National Environmental Policy Act (NEPA) (42 United States Code [U.S.C.] §§ 4321–4347). Issuance of an eagle take 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 the Service's decision whether to issue an eagle take permit.

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 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" (50 CFR 22.6).

The Applicant, McEwen Mining Inc. (MMI), is requesting Eagle Act take coverage for resource extraction associated with the Project and has submitted an eagle incidental take permit application to the Service. The applicant's Eagle Conservation Plan (ECP, Appendix A) is the foundation of the application from MMI. The details within the existing Bureau of Land Management (BLM) NEPA document (BLM 2022) are also included and referenced.

The Applicant is requesting a permit for authorized disturbance to and loss of annual productivity from one golden eagle breeding pair territory for two consecutive years. The single territory contains four golden eagle nests. This EA evaluates whether issuance of the eagle incidental take permit would have significant impacts on the existing human environment. "Significance" under NEPA is defined by regulation at 40 CFR 1508.27 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 (PEIS) for the Eagle Rule Revision, December 2016 (USFWS 2016a). Accordingly, this EA tiers from the PEIS. Project-specific information not considered in the PEIS has been considered in this EA as described below.

## 1.1 Purpose and Need

The Service's purpose in considering the Proposed Action is to fulfill their 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 eagle incidental take permits so that their projects may proceed without potential violations of the Eagle Act. The Service may issue eagle take permits for eagle take that is associated with, but not the purpose of, an activity. Such permits can be issued by the Service 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; it is associated with, but not the purpose of, the activity; and it cannot be practicably avoided (50 CFR § 22 and 81 Federal Register 91494).

The need for this action is a decision on an eagle incidental take permit application from MMI. 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. 668–668d) and its regulations (50 CFR 22). The PEIS (USFWS 2016a) has a full list of authorities that apply to this action (USFWS 2016a: Section 1.6, pages 7-12), which are incorporated by reference here.

## 1.3 Background

In September 2020, MMI submitted an Amended Mine Plan of Operations (amended Plan) for the Gold Bar Mine (N-91037) and Reclamation Permit (0384) (MMI 2020) to the Mount Lewis Field Office of the Battle Mountain District BLM. The amended Plan increases the authorized GBP boundary to include the GBS boundary (Project). The amended Plan was determined to be complete by the BLM on October 29, 2020. The amended Plan was submitted to comply with BLM Surface Management Regulations Title 43 CFR, subpart 3809 (43 CFR 3809.401 et seq., as amended), State of Nevada regulations governing the reclamation of mined lands (Nevada Administrative Code 519A.010-635), and BLM Instruction Memorandum No. NV-2011-004 – Guidance for Permitting 3809 Plans of Operation. The 43 CFR 3809 regulations require that the BLM fulfill its obligation under NEPA by analyzing and disclosing the potential environmental impacts of the proposed amendment.

The Gold Bar Mine is located approximately 30 miles northwest of Eureka, Nevada, in the southern Roberts Mountains in Eureka County, Nevada (**Figure 1-1**). The GBS boundary consists of 2,230 acres of public land administered by the BLM Mount Lewis Field Office (**Figure 1-1**). Disturbance associated with the Project includes construction and operation of facilities that will

encompass approximately 213.3 acres of additional, new surface disturbance on public land for the GBS boundary expansion (MMI 2020). The Project will use the same surface mining procedures and techniques as previously authorized and described in the Gold Bar Mine Project Final EIS (BLM 2017). Operations within the GBS boundary will produce approximately 2.8 million tons of ore to be processed in the previously authorized GBP processing facilities.

The Project includes the expansion of surface mining to include 51.1 acres associated with the GBS open pit and pit buffer. A new GBS Haul Road is to be constructed from the GBP boundary to the GBS Pit within the GBS boundary, which will be approximately 76 feet wide and approximately 24,432 linear feet for a total surface disturbance of 53.2 acres. Approximately 11 million tons of additional waste rock will be generated from mining of the GBS pit, which would be placed on the adjacent GBS waste rock disposal area. The GBS waste rock disposal area will encompass 71.5 acres within the GBS boundary. The Project includes construction of three new yards with a total of 36.6 acres of additional surface disturbance, one of which is to be constructed within the GBS boundary adjacent to the GBS waste rock disposal area while the other two will be constructed within the authorized GBP boundary. Two additional sediment basins are planned for construction within the GBS boundary and an associated sediment basin access road for additional stormwater facilities, which would amount to 1.04 acres of additional surface disturbance (MMI 2020). The Project will follow the authorized Gold Bar Mine operations schedule, which is two, 10-hour or 12-hour shifts per day, 365 days per year. The combined manpower total for the operation (hauling, blasting, processing, administration) is approximately 135 employees, comprised of three contractors and 132 staff (MMI 2020).

Four golden eagle nests (RCR-01, RCR-02, RCR-03, RCR-04) constituting one golden eagle territory have been documented within one mile of the GBS disturbance footprint. The Project could have an impact to the golden eagle breeding pair occupying the territory through the presence of mining activities in close proximity to their nests, thus causing potential negative impacts to the pair's breeding and nesting activities.

The Project area (GBS disturbance footprint plus a surrounding 10-mile radius) includes various rock outcrops and mine highwalls that were identified as areas with potential nesting golden eagles. Cliff and rock outcrops exist in the Roberts Creek Mountains as well as various isolated hill features around the Project area, and there are multiple open pits throughout the area of analysis, primarily from the historic Atlas Gold Bar Mine and the existing GBP. Vegetation communities are dominated by Great Basin Pinyon-Juniper Woodland, Inter-Mountain Basins Big Sagebrush Shrubland, and Inter-Mountain Basins Montane Sagebrush Steppe, which provide varying ranges of golden eagle habitat for potential foraging value and golden eagle prey base. There are multiple seeps, springs, stock troughs, and intermittent and ephemeral drainages within the area of analysis that provide a reliable water source for eagle prey.

### 1.4 Scoping, Consultation, and Coordination

This EA incorporates by reference the scoping performed for the PEIS (USFWS 2016a: Chapter 6, page 175). The EA and accompanying documents will be made public on the Service's website (https://www.fws.gov/library/collections/pacific-southwest-region-nepa-documents-eagle-permits).

### 1.5 Tribal Coordination

Tribal participation is an integral part of the NEPA and the 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 with tribal governments (65 Federal Register 67249, November 9, 2000), the NHPA Section 106 (36 CFR 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 to eight federally recognized tribal governments; five located within 109 miles (the natal dispersal distance of golden eagles, thought to adequately define the species local area population [LAP]) of the Project, and to three federally recognized tribal governments located outside but near to the 109-mile area around the Project, 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. The Service was not contacted by any of the above tribal governments.

## 2.0 Proposed Action and Alternatives

In this analysis, and in our consideration of take authorization to the Applicant, 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 indicates one breeding territory is most likely to be impacted by activities, as this pair has nests located in the vicinity of the Project area, 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 in the Project area or its vicinity over the life of the permit. The Applicant may utilize the nest disturbance take authorization for no more than two consecutive years; to allow for operational flexibility, the nest location may differ within the Project area compared to what is evaluated in this EA. Effects of one incident of disturbance

take and loss of annual productivity from one golden eagle breeding pair over two years is expected to be the same, regardless of exact nest location.

Criteria for issuance of an eagle take permit are codified in 50 CFR § 22.80(f). MMI's application for an eagle incidental take permit meets all the regulatory issuance criteria and required determinations (50 CFR § 13.21 and 50 CFR § 22.80) for eagle take permits.

## 2.1 Alternative 1: Proposed Action

The Service proposes to issue an eagle incidental take permit, with associated conditions, to the Applicant for disturbance to and loss of annual productivity of breeding golden eagles, as allowed by regulation (Proposed Action). The permit would be issued for take incidents from disturbance to, and loss of annual productivity, for up to two years, from one golden eagle breeding pair, occupying one territory that consists of four nest sites.

Under this alternative, all monitoring and adaptive management measures, minimization measures, and detection and reporting measures outlined in Sections 2.11 through 2.13 would be permit requirements. Monitoring associated with the permit would be conducted as outlined in **Table 2-1**.

### *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. The amount of compensatory mitigation required for the lost productivity has been determined through the Service's Golden Eagle Resource Equivalency Analysis (REA) (USFWS 2013). The permit would require 21 to 87 electric utility poles to be retrofitted to offset the impacts to golden eagle breeding territories. The final number of poles retrofitted will depend on several factors, including the type and expected longevity of each retrofit once the actual poles have been identified.

MMI would provide compensatory mitigation for disturbance take from one golden eagle breeding pair associated with one territory over two years no later than 30 days after permit issuance. The Service and MMI would continue to consult and evaluate the amount of mitigation owed or credited throughout the permit authorization period.

### *2.1.2 Adaptive Management*

Continued monitoring will inform the Applicant and the Service on the status of existing nests as well as if new nests are being constructed near the Project and its associated activities. First, if new nests are encountered within one mile of GBS mining activity or two miles of surface blasting, either incidentally by mine staff/contractors or during annual surveys, the Applicant would notify

the Service within 72 hours. Coordination would then occur to determine if avoidance (no surface-disturbing activities within one mile of an in-use/occupied nest during breeding season including early courtship through post fledging nest dependency [December 15 through July 15]) and/or mitigation are required, based on site specifics. If the nest is associated with the breeding pair covered under the permit, then no further action would be necessary, as the nest would be including in the breeding territory of that pair. If it appears to be a nest of a different breeding pair, and avoidance is not practicable, the Proponent may request a permit amendment from the Service. Additionally, the Service may consider additional adaptive management strategies, if necessary, in coordination with the Applicant throughout the permit authorization period.

### *2.1.3 Eagle Nest Monitoring*

The Applicant will monitor eagle nest sites annually using an independent third-party biologist that will conduct aerial and ground surveys of the eagle population within the 2-mile radius of the GBS boundary for the duration of mining operations. Annual monitoring would be conducted via at least two aerial surveys during the golden eagle breeding season, with the surveys conducted at least one month apart. The Project area eagle nest monitoring will inform the Applicant and agencies when golden eagle nests are in-use in the Project area in order to validate the number of take incidents that occur and ensure compliance with the permit authorization.

## 2.2 Alternative 2: No Action Alternative

Under the No Action Alternative, the Service would take no further action on MMI's permit application. However, the Service must take action on the permit application and determine whether to deny or issue the permit. Accordingly, this alternative is considered because Service policy 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 a permit. Should a Permit not be issued, compensatory mitigation would not be required. Thus, for purposes of analyzing the No Action Alternative, the conservation measures proposed in the Permit application package would not be required. The Applicant may choose to voluntarily implement some, none, or all those conservation measures. Under this alternative, it is assumed that the Applicant would take reasonable steps to avoid taking eagles, but MMI would not be protected from enforcement for violating the Eagle Act should take of an eagle occur.

## 2.3 Common to All Alternatives

This section describes components of the Project that are the same for the Proposed Action and No Action Alternative whether a permit is issued, as required by BLM. If a permit is issued, these measures would become permit requirements.

### *2.3.1 Monitoring*

The Applicant will implement all measures required by other agencies and jurisdictions to conduct the activity at this site, including applicant-committed Environmental Protection Measures (ACEPMs). The applicant will implement all conservation measures and commitments summarized below. Monitoring will be implemented over the life of the Project. **Table 2-1** presents a summary of the ACEPMs with monitoring and a schedule for implementation per the existing BLM NEPA document for the Gold Bar Mine (BLM 2017), which would continue to be implemented through the life of the Project as noted in the existing BLM NEPA document for the amended Plan (BLM 2022).

**Table 2-1 ACEPM Monitoring Schedule**

| ACEPM | Monitoring Actions | Duration |
|---|---|---|
| ACEPM 1 | Speed limits will be posted at 35 miles per hour (mph) on haul roads and 45 mph on access roads (BLM 2017). | Life of the Project. |
| ACEPM 2 | New hire and annual refresher training for all employees and contractors would include wildlife protection training that specifically addresses the commitment of MMI to implement the faunal protection program. MMI would work with the Nevada Department of Wildlife (NDOW) in the development of training materials. | Upon new hires, as needed, and annually for the life of the Project. |
| ACEPM 3 | Site-specific training would also include internal contact numbers for reporting sick or injured animals in the Project area, as well as reporting procedures to the BLM and NDOW for any wildlife and wild horse mortalities. NDOW Industrial Artificial Pond Permit requirements would include reporting by the next business day any mortalities of wildlife species protected under the Migratory Bird Treaty Act, all game animals, game birds, sensitive, threatened, or endangered species, and which are associated with chemical containing tanks or impoundments. | Life of the Project. |
| ACEPM 4 | Leach lines on the heap leach pad would be managed to preclude surface ponding on the heap surface that could attract avian or terrestrial resources to potentially toxic leach solutions. | Life of the Project. |
| ACEPM 5 | All artificial or man-made bodies of water that contain any chemical in solution at levels lethal to wildlife (i.e., barren, and pregnant solution ponds) would be covered or contained in a manner that would prevent access by birds and bats. All covers or containers would be maintained in a manner that would continue to preclude access by wildlife for as long as the pond or container can hold water. Any chemical-laden fluids that are the result of any process and that are impounded in a pond that is too large to cover or contain (i.e., mill tailings ponds) would be rendered non-lethal to wildlife. The chemical concentration would be measured at a non-lethal level at the point where the fluid flows from a pipe into the pond or open conveyance system. Chemical neutralization and | Life of the Project. |

| ACEPM | Monitoring Actions | Duration |
|---|---|---|
| | dilution are among methods that could be used to reduce chemical concentration. | |
| ACEPM 6 | Annual raptor surveys would be conducted for the GBS boundary and a two-mile buffer. The surveys would be performed in accordance with the Service Interim Golden Eagle Technical Guidance: Inventory and Monitoring Protocols; and Other Recommendations in Support of Golden Eagle Management and Permit Issuance (Pagel et al., 2010). This guidance states that a project should be surveyed at least twice for nesting raptors during the breeding season and that surveys should be conducted at least 30 days apart. If nesting building activities or behavior or nesting raptors are identified, MMI would coordinate with the BLM biologist on appropriate avoidance distances, as determined by the species identified. The avoidance areas would be in place until a qualified biologist has determined the young have fledged. | Annually as needed for the life of the Project. |

Source: BLM 2017

### *2.3.2 Minimization Measures*

MMI is implementing the following measures and will continue to implement the measures to minimize impacts to golden eagles from the Project: speed limit reduction on haul roads and access roads; leach line management; containment and covering of bodies of water with chemical contamination, annual raptor surveys. Carcass Management: Staff will remove wildlife carcasses (carrion) from all roadways within the Plan boundary when on site and dispose of them appropriately to reduce the risk of vehicle collisions. Staff will contact the Service and NDOW immediately to report incidences of eagle mortality and arrange for retrieval and receipt of the carcass. The BLM will also be notified of the mortality.

Employee Awareness and Training Program: Staff and contractors working on the Project will be provided training on reducing risks to eagle collisions, reporting eagle and nest observations, and any Service requirements provided within the eagle permit as noted above for the ACEPMs in **Table 2-1**.

### *2.3.3* Detection and Reporting Measures

Eagle injuries, mortalities, and previously undocumented eagle nests may be detected through incidental observations by MMI personnel and contractors. To improve the probability that injuries and mortalities do not go undetected, MMI field staff will be advised to remain alert for eagles within mining areas and access and haul roads at all times. The detection of any new nest sites will occur through incidental observations and any monitoring that occurs.

In the event that a new nest is detected within proximity to mining activities, the MMI 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 if possible, the species.

When MMI personnel or their contractors encounter a golden eagle injury or mortality within the GBS boundary, they must report the incident to the MMI 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, MMI'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 Project. 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 permit application because the Applicant falls under one of the disqualifying factors and circumstances denoted in 50 CFR 13.21, the application fails to meet all regulatory permit issuance criteria and required determinations listed in 50 CFR 22.80, or because the Service determined that the risk to eagles is so low that a take permit is unnecessary.

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 MMI. Next, the Service 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 § 22.80(f). MMI'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 permit, 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 alternatives.

## 3.1 Golden Eagles

General information on the population trends, distribution, and habitat of golden eagles are detailed in the PEIS (USFWS 2016a: Sections 3.3 and 3.4). This section more specifically describes the golden eagle population in the Project area.

### *3.1.1 Project Area Habitat*

**Foraging Habitat**

Vegetation communities in the study area have been mapped by the Southwest Regional Gap Analysis Project (SWReGAP) in land cover types for the Project area (USGS 2011). The SWReGAP mapping shows 24 vegetation communities occurring within the Project area. Three are mapped as over five percent of the Project area Great Basin Pinyon-Juniper Woodland (19 percent), Inter-Mountain Basins Big Sagebrush Shrubland (52 percent), and Inter-Mountain Basins Montane Sagebrush Steppe (21 percent). Each of the remaining 21 communities were mapped as five percent or less of the Project area. **Table 3-1** presents the total acres of the vegetation communities within the Project area. The potential foraging value of the various habitat types present in the region has not been quantified, but in general, they support golden eagle prey base at varying degrees which supports golden eagle foraging.

**Table 3-1 SWReGAP Vegetation Communities within the Project Area**

| Vegetation Community | Acres | Percent |
|---|---|---|
| Great Basin Foothill and Lower Montane Riparian Woodland and Shrubland | 302.7 | 0.12 |
| **Great Basin Pinyon-Juniper Woodland** | **48,855.3** | **19.24** |
| Great Basin Xeric Mixed Sagebrush Shrubland | 9,375.9 | 3.69 |
| **Inter-Mountain Basins Big Sagebrush Shrubland** | **132,436.7** | **52.17** |
| Inter-Mountain Basins Big Sagebrush Steppe | 115.4 | 0.05 |
| Inter-Mountain Basins Cliff and Canyon | 325.4 | 0.13 |
| Inter-Mountain Basins Greasewood Flat | 1,799.1 | 0.71 |
| Inter-Mountain Basins Mixed Salt Desert Scrub | 775.6 | 0.31 |
| **Inter-Mountain Basins Montane Sagebrush Steppe** | **54,327.4** | **21.40** |
| Inter-Mountain Basins Mountain Mahogany Woodland and Shrubland | 2,295.6 | 0.90 |
| Inter-Mountain Basins Playa | 2.2 | 0.00 |
| Inter-Mountain Basins Semi-Desert Grassland | 1,066.5 | 0.42 |
| Inter-Mountain Basins Semi-Desert Shrub Steppe | 59.6 | 0.02 |
| Inter-Mountain Basins Subalpine Limber-Bristlecone Pine Woodland | 151.7 | 0.06 |
| Inter-Mountain Basins Wash | 1.6 | < 0.01 |
| Inter-Mountain West Aspen-Mixed Conifer Forest and Woodland Complex | 22.0 | 0.01 |

| Vegetation Community | Acres | Percent |
|---|---|---|
| Invasive Annual and Biennial Forbland | 2.7 | < 0.01 |
| Invasive Annual Grassland | 41.6 | 0.02 |
| Invasive Perennial Grassland | 1,152.4 | 0.45 |
| North American Arid West Emergent Marsh | 11.6 | < 0.01 |
| Recently Mined or Quarried | 717.0 | 0.28 |
| Rocky Mountain Aspen Forest and Woodland | 23.4 | 0.01 |
| Rocky Mountain Montane Mesic Mixed Conifer Forest and Woodland | 1.3 | < 0.01 |
| Rocky Mountain Subalpine-Montane Riparian Woodland | 4.0 | < 0.01 |
| **Total** | **253,866.4** | **100.00** |

Source: USGS 2011
*Bold denotes dominant habitat types.

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 Project area. Meadow habitats, agricultural alfalfa pivots, and pastures in the Project area support large populations of rodents and lagomorphs. These habitats occur at ranches in Crescent Valley and Rocky Pass.

**Nesting Habitat**

Within the Project area, various rock outcrops and mine highwalls were identified as areas with potential nesting golden eagles. In 2020, there was one in-use golden eagle nest documented in the study area located on a rock outcrop. Cliff and rock outcrops exist in the Roberts Creek Mountains as well as various isolated hill features around the Project area. There are multiple open pits throughout the Project area, primarily from the Atlas Mine and existing Gold Bar Mine.

**Other 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. Cliffs and outcrops occur in the Roberts Creek Mountains as well as on isolated hill features around the Project. 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.

### *3.1.2 Project Area Golden Eagle Population*

The golden eagle nesting territories within the 10-mile radius of the Project were delineated based on annual surveys conducted from 2017 through 2020 (Stantec 2021) with all inventory and monitoring reports following the standard golden eagle survey protocols accepted by the USFWS

(Pagel et al. 2010). A total of 13 golden eagle nest sites have been documented within the 10-mile radius of the Project over the past four years of surveys, constituting nine distinct territories delineated based on proximity of nests to one another and concurrent use of adjacent nests (Stantec 2021). **Appendix A** summarizes the golden eagle territories and status of nests within the Project area. **Figure 3-1** shows the nest locations in the Project area and vicinity. There is limited data for fledged young in the Project area. Two of five territories within the 10-mile radius of the Project area were documented as in-use in 2017. In 2018, one of five territories was documented by as in-use. The territory use rate for 2019 was zero percent (none of seven territories in-use) and was 11 percent in 2020 (one of nine territories in-use).

### *3.1.3 Territories Within the Project's Plan Boundary*

One known territory occurs within one mile of, but not directly within, the GBS boundary (**Figure 3-2**). There are four nest sites within the territory (RCR-01, RCR-02, RCR-03 and RCR-04), and are all located within one mile of the GBS boundary. These nests are within 0.6 miles of each other and have not been simultaneously in use during the 2017 through 2020 surveys (Stantec 2021). The territory was documented as occupied and to have one or two eaglets in 2017 and was documented as occupied with two eaglets in 2018. The territory was not occupied in 2019 or 2020 (Stantec 2021). The next closest territory is approximately 4.5 miles to the northeast.

### *3.1.4 Project Eagle Population Stressors*

**Mining Activities**

Take at the single territory would occur in the form of potential disturbance and surface activities associated with open-pit mining at any of the four known nests within one mile of GBS mining activity and two miles of surface blasting. Risks to golden eagles include unintentional disturbance from activity near nest sites, such as noise and visual irritation from surface disturbance, development blasting, waste rock and ore hauling, and vehicular traffic on roads.

**Roads**

Mobile equipment (i.e., vehicles) used in operations at the Project or traveling to or from the Project 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. MMI has speed limits placed on equipment and vehicles operating at the Project. Vehicle speeds on haul roads shall not exceed 35 mph and 45 mph on access roads. The greater risk for vehicle mortality is on area roads outside of the Project to the south (i.e., U.S. Highway 50) and to the east (i.e., State Route 278), which are outside of MMI's control, due to higher speeds and additional traffic.

## 3.2 Bald Eagles

Bald eagles (*Haliaeetus leucocephalus*) are known to occur in the region but have not been identified within the Project area; therefore, bald eagles are not expected to be affected by mining activities associated with the Project and disturbance and loss of territory of bald eagles are not expected to result from the Project (BLM 2022).

## 3.3 Migratory Birds

Effects to migratory birds have been analyzed in the PEIS (USFWS 2016a). A variety of migratory birds have been identified in the GBS boundary; however, issuance of the proposed permit is not anticipated to affect one or more species of migratory birds. Additionally, MMI has ACEPMs to reduce potential impacts to migratory birds within the GBS boundary (BLM 2017, 2022).

## 3.4 Species Listed under the Endangered Species Act

No species listed under the Endangered Species Act of 1973, as amended (ESA) (16 U.S.C. §§ 1531-1544), were found to be present in or near the Project area; therefore, disturbance and loss of species or individuals listed under the ESA is not expected to result from the Project (BLM 2022).

## 3.5 Coordination with Tribal Governments

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 (USFWS 2016a).

None of the above tribal governments provided comment during scoping and tribal outreach for this EA. The Proposed Action or considered alternatives would not impact cultural or socioeconomic interests beyond the impacts already discussed in the PEIS. Therefore, cultural and socioeconomic interests have not been analyzed further in this EA.

## 3.6 Climate Change

Climate change was considered in the PEIS (USFWS 2016a; Section 3.9, page 144), and is not analyzed further in this EA.

# 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). 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 an eagle take permit for this Project.

## 4.1 Alternative 1: Proposed Action

In determining the significance of effects of the Project on eagles, the Service screened the Proposed Action of issuing an eagle take permit for the take of golden eagles against 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). The Service assessed Project effects to eagles at the project, local, and regional scales.

### *4.1.1 Effects*

**Golden Eagles**

Under the Proposed Action, the Applicant is requesting authorization to cause disturbance take at a single nesting territory for no more than two years from the date of the issuance of the permit. Within one mile of authorized surface disturbance activities, there is thought to be one breeding pair occupying one territory that consists of four nest sites (RCR-01, RCR-02, RCR-03 and RCR-04) (**Figure 3-2**) which are located on natural outcrops. No golden eagle nests have been identified within the GBS disturbance footprint. No golden eagle nests would be physically removed as a result of the Proposed Action.

The take of a single territory would occur in the form of potential disturbance and surface activities associated with open-pit mining (such as noise, development blasting, and waste rock and ore hauling) because four known nests associated with the breeding pair are within one mile of GBS mining activity and two miles of surface blasting. The disturbance take would be short-term, occurring only during the permitted mining and mine reclamation activities. Disturbance would likely result in the temporary loss of productivity for the single territory, over two years.

Disturbance of the one 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. Loss for one territory would result in a lost annual productivity of 0.59 golden eagle young. The permit applicant asks for coverage for the two operational years of the mine, meaning a total lost productivity of 1.18 golden eagle young over the remaining life of the mine.

Along with the monitoring and minimization measures outlined in Section 2, the Applicant would provide compensatory mitigation to offset the expected take. Thus, the Project is not expected to have long-term effects to the golden eagle population at the project, local, or regional scale. To determine the amount of mitigation required, the Service's Golden Eagle REA was used (USFWS 2018) as described in Section 2 of this EA.

The Eagle Act regulations require compensatory mitigation to be conducted in the same EMU in which the take occurs. The Project is 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.

At the Project scale, the alteration of the eagle habitat from Project development could cause shifting in eagle pair territory boundaries in the vicinity of the Project, which could cause increased antagonistic interactions with surrounding eagle pairs, potentially creating a ripple-effect of impacts to eagles in areas surrounding the Project. However, these effects are speculative and are not evaluated further.

The Service also assessed situations where the golden eagle take proposed under the Proposed Action combined with take from other present or foreseeable future actions and sources may be approaching levels that are biologically problematic. To ensure that eagle populations at the local scale are not depleted by combined sources of 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, all annual 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. Before issuing a permit, the Service must also assess any available data to determine if there is any indication that unauthorized take (take that has not been permitted by the Service) in the LAP may exceed ten percent, as this is roughly the average background level of unpermitted take in local area populations of golden eagles (USFWS 2016a). The 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 the effects to the LAP surrounding the Project boundary (Figure 4-1) to evaluate whether the take to be authorized under this permit, combined with other sources of permitted take and unpermitted eagle mortality, may be incompatible with the persistence of the Project's LAP. Data provided by MMI, data on other eagle take authorized and permitted by the Service, and other reliably documented unauthorized eagle mortalities has been incorporated to estimate impacts to the LAP. The effects analysis was conducted as described in the Service's Eagle Conservation Plan Guidance (USFWS 2013).

The LAP for the Project was estimated to be about 807 golden eagles. The five percent benchmark for authorized take of that LAP is about 40.4 eagles. Current authorized take in the LAP, including

permitted take at five other projects and the disturbance take that is estimated to occur at the Project, is 1.08 golden eagles or 0.13% percent of the LAP per year. This is well below the five percent sustainable take benchmark determined by the Service to maintain the local area population of golden eagles. The Service also does not have any indication that unauthorized take may exceed ten percent of the LAP. Available data of unauthorized take suggests that unauthorized take of eagles in the LAP may be around 2.08% percent of the LAP per year. Therefore, effects of take at the local scale would not be significant and would therefore be compatible with the preservation of golden eagles.

Additionally, take of eagles has the potential to affect the larger eagle population. Accordingly, the 2016 PEIS analyzed the 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. 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.

Furthermore, the Proposed Action incorporates adaptive management and minimization measures as described in Section 2. The proposed ACEPMs would continue to be implemented as permit stipulations to further reduce the risk of Project-related injury or mortality hazards to eagles within the Project boundary.

The Proposed Action meets the purpose and need as it is consistent with the Eagle Act and its regulations and adequately addresses the risk of take at the Project.

**Bald Eagles**

Because the Project has not changed in scope, timing, or duration, no significant adverse effects are foreseen to bald eagles as a result of the Project (BLM 2022). Although take of bald eagles is not expected to occur at this Project, 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 Project has not changed in scope, timing, or duration, no significant adverse effects to migratory bird populations are expected as a result of the Project (BLM 2022). Issuance of an eagle take permit to the Project may also provide benefits to migratory birds. Power pole retrofits

completed as compensatory mitigation for the eagle take permit may minimize electrocution risk for raptors and other migratory birds, just as with eagles.

**Species Listed under the Endangered Species Act**

No species listed under ESA (16 U.S.C. §§ 1531-1544), were found to be present in or near the Project area; therefore, disturbance and loss of species or individuals listed under the ESA is not expected to result from the Project (BLM 2022).

However, under the Proposed Action, required compensatory mitigation in the form of retrofitting electric power poles to offset authorized take of golden eagles under an eagle take permit has the potential to cause effects to ESA-listed species in the area where retrofitting is completed. The compensatory mitigation sites for retrofitting of power poles to offset any authorized eagle take under an eagle take permit have not yet been identified. Once the compensatory mitigation sites are selected, the Service will conduct an internal Section 7 Consultation and further analyze and address potential effects to ESA-listed species at the location of the power poles that would be retrofitted. The Service anticipates that adverse effects to listed species would be avoidable by timing retrofits to avoid sensitive seasons, and/or through the use of other species-specific avoidance measures. However, if the determination of the Section 7 Consultation was that adverse effects were likely to occur to listed species, the Service would prepare additional NEPA documentation to supplement this EA.

## 4.2 Alternative 2: No Action Alternative

### *4.2.1 Effects*

**Golden Eagles**

The Service assumes the level 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 application. A permit would not be issued, and compensatory mitigation would not be required. Under this alternative, impacts of the Project on the golden eagle population would be assumed to be the loss of productivity for two years, from one golden eagle breeding pair, occupying one territory, that consists of four nest sites. This take would not be offset by compensatory mitigation. The Applicant would continue to implement the monitoring and avoidance measures for the Project as described in Section 2; however, additional measures outside of those referenced in Section 2, 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

Under the No Action Alternative, benefits that bald eagles might incur from minimization measures established under a golden eagle take permit to reduce the risk to golden eagles, as well as from 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 an eagle take permit would not be realized under the No Action Alternative.

## Species Listed under the Endangered Species Act

Any incidental effects to federally threatened and endangered species from minimization measures and compensatory mitigation required under an eagle take permit would not be realized under the No Action Alternative.

**Table 4-2 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 one breeding pair of golden eagles, for up to two years. | Loss of productivity from one breeding pair of golden eagles, for up to two years. |
| **Avoidance and Minimization** | Applicant will continue to implement the measures to minimize impacts to golden eagles (Section 2) at the Project including: vehicle speed limits; employee awareness/training programs; and carcass management. | Same as detailed under the Proposed Action, as the Applicant is committed to these measures even without issuance of a permit. |
| **Compensatory Mitigation** | Retrofitting of power poles to offset the loss of annual productivity from one breeding pair of golden eagles for up to two years from the date of the issuance of the permit. | None provided. |
| **Detection and Reporting** | Applicant will continue to meet their BLM requirements from the 2022 EA, implement the measures to minimize impacts to golden eagles (Section 2) including the reporting and detection system to ensure that personnel adhere to the appropriate actions should a previously unidentified nest, injured eagle, or deceased eagle be identified. | Same as detailed under the Proposed Action. |

| | Alternative 1: Proposed Action | Alternative 2: No Action Alternative |
|---|---|---|
| **Unmitigated Eagle Take** | None. | Loss of productivity from one breeding pair of golden eagles, for up to two years. |
| **Adaptive Management** | If continued monitoring determines that there are multiple takes occurring in a given year and that the Proponent is approaching their take permit limits, adaptive management would be implemented. First, if new nests are encountered within one mile of mining activity or two miles of surface blasting, either incidentally by mine staff/contractors or during annual surveys, the Applicant would notify the Service within 72 hours. Coordination would then occur to determine if avoidance and/or mitigation are required, based on site specifics. If avoidance is not practicable, the Proponent may request a permit amendment from the Service. The Service may consider additional adaptive management strategies, if necessary, in coordination with the Applicant throughout the permit authorization period. | None. |
| **Data Collection/Monitoring** | A third-party qualified biologist will monitor eagle nest sites annually via aerial and ground surveys of the eagle population within the Project area for the duration of mining operations. Annual monitoring would be conducted via at least two aerial surveys during the golden eagle breeding season, with the surveys conducted at least one month apart. Applicant will also document any eagle injury or mortality identified while working at the Project. | MMI will conduct annual nest status monitoring for the Project, as the applicant is committed to these measures even without issuance of a permit. |
| **Company Liability for Eagle Take** | None | Yes. |

# 5.0 Mitigation

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 to 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 to 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 an eagle take permit under the Proposed Action. Section 2 provides details of the compensatory mitigation and minimization measures that would be completed under the Proposed Action.

# 6.0 List of Preparers and Reviewers

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- Ian Dudley, Environmental Scientist, Stantec Consulting Services Inc.
- Christine Johnson, GIS Specialist, Stantec Consulting Services Inc.
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- Heather Beeler, Wildlife Biologist, U.S. Fish and Wildlife Service
- Amy Walsh, Permits Biologist, U.S. Fish and Wildlife Service
- James Panaccione, Wildlife Biologist, U.S. Fish and Wildlife Service

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# FIGURES

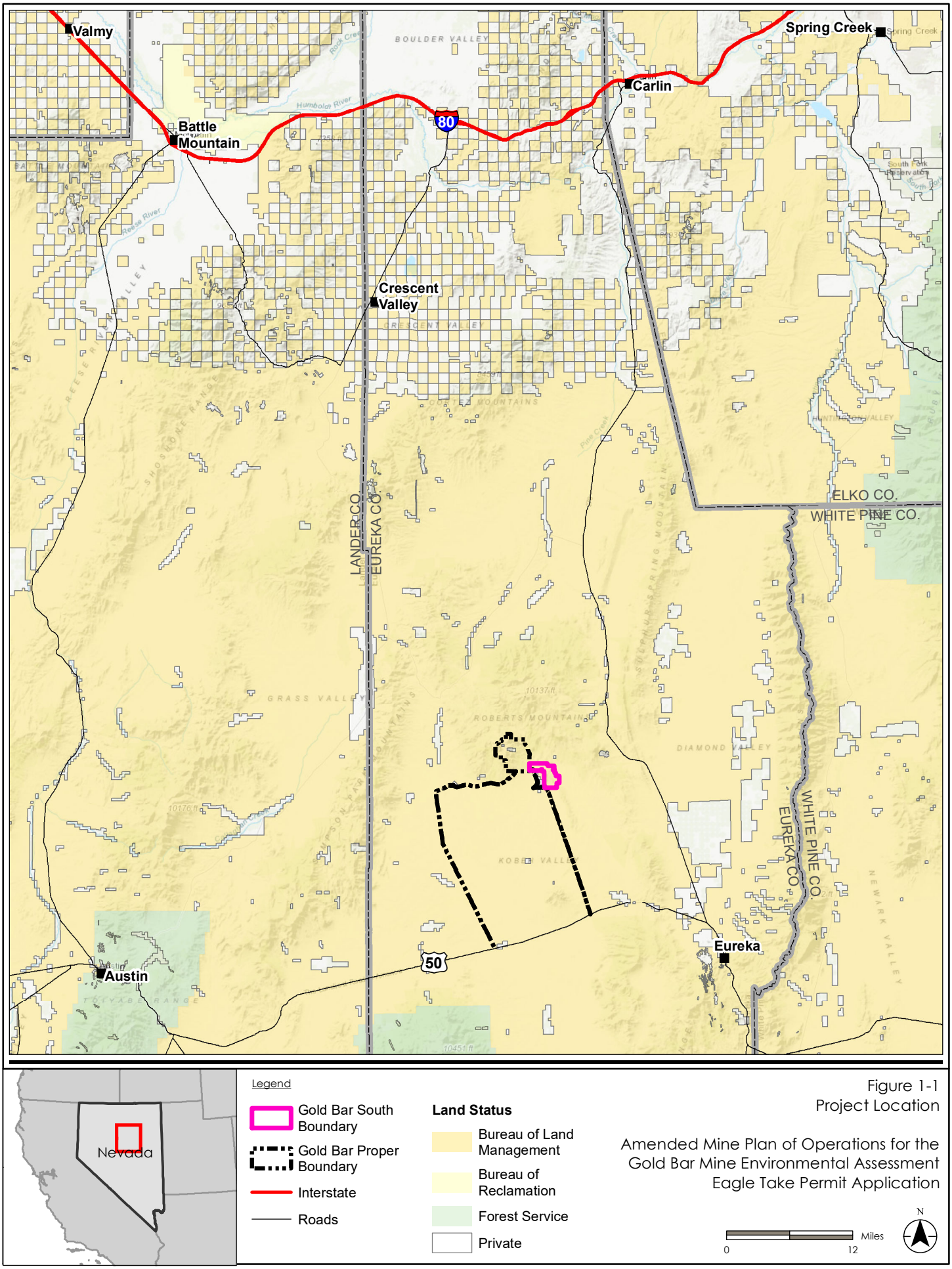
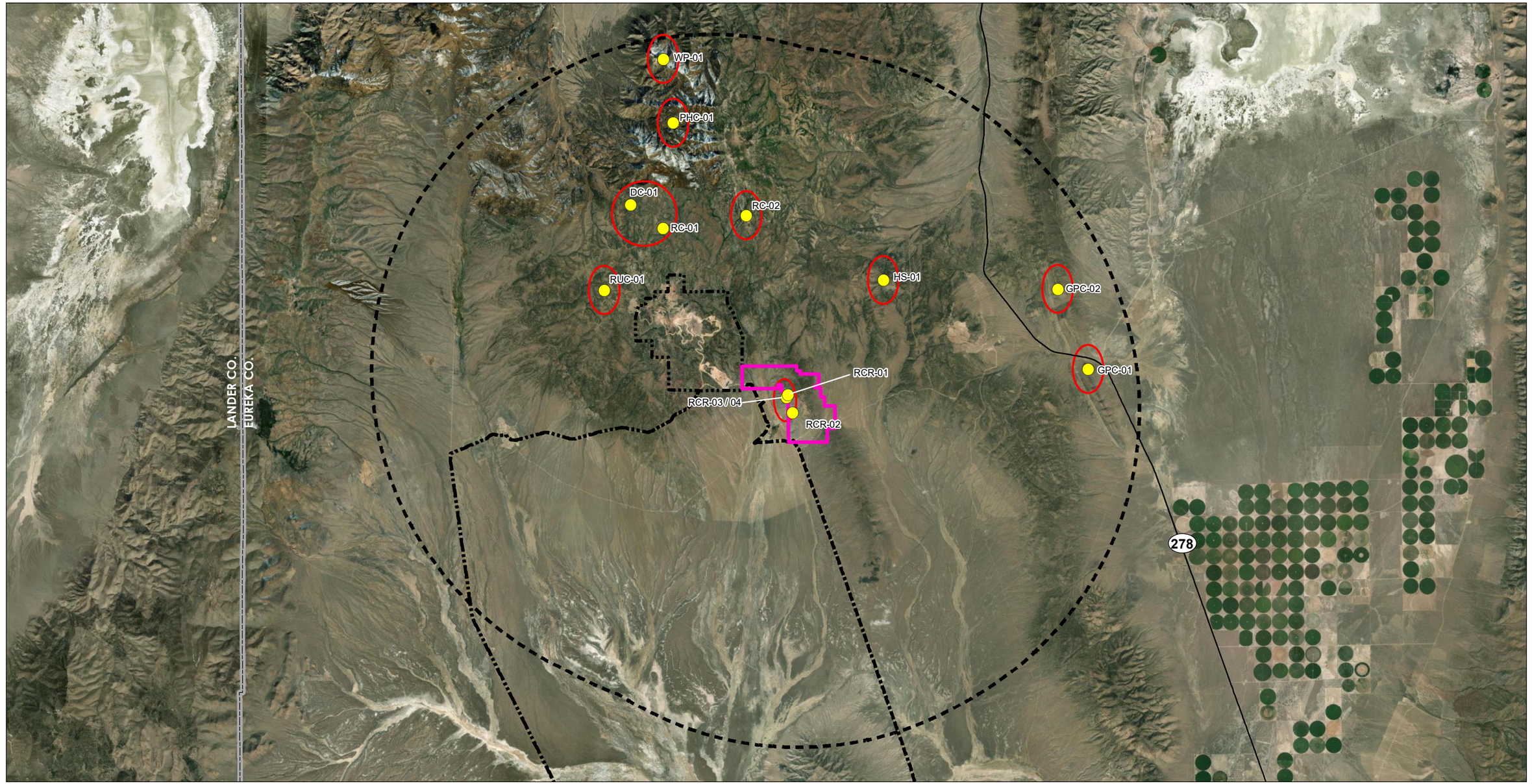



Figure 1-1
Project Location

Amended Mine Plan of Operations for the
Gold Bar Mine Environmental Assessment
Eagle Take Permit Application

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community





Legend

- Gold Bar South Boundary
- Gold Bar Proper Boundary
- 10-Mile Buffer of Disturbance
- Golden Eagle Nest Territories
- Golden Eagle Nest

Figure 3-1
Golden Eagle Nests

Amended Mine Plan of Operations for the
Gold Bar Mine Environmental Assessment
Eagle Take Permit Application

N

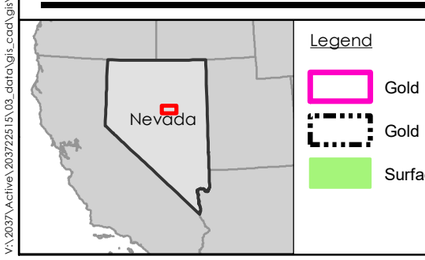
0 1.5 3 Miles

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

RCR-01

RCR-03 / 04

RCR-02




Legend

Gold Bar South Boundary

Gold Bar Proper Boundary

Surface Disturbance

Golden Eagle Nest

Golden Eagle Nest Territories

1-Mile Buffer of Golden Eagle Nest

Figure 3-2
Golden Eagle Territories Proposed For Take

Amended Mine Plan of Operations for the
Gold Bar Mine Environmental Assessment
Eagle Take Permit Application

N

0 0.25 0.5 Miles

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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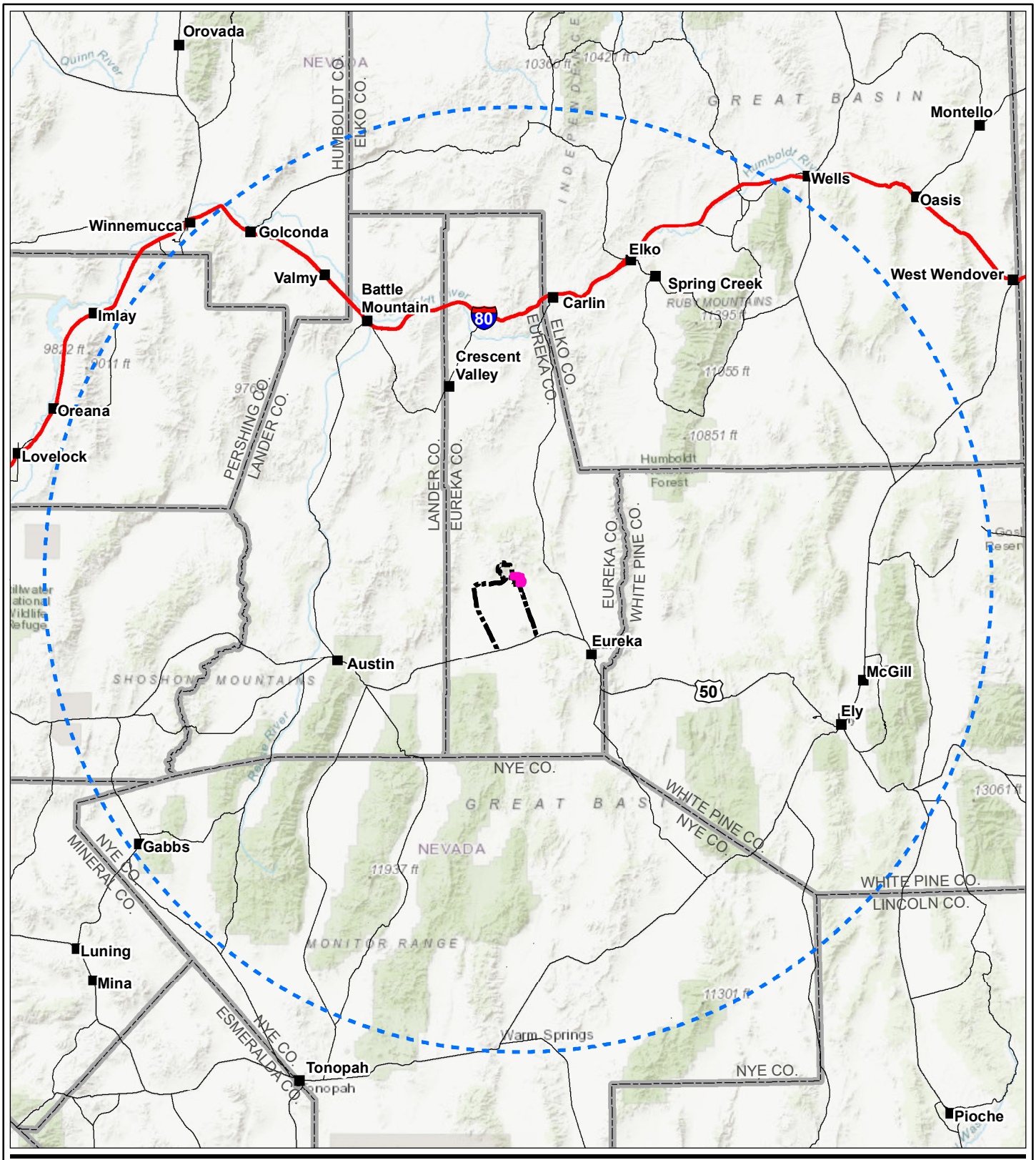



Legend

- Gold Bar South Boundary
- Gold Bar Proper Boundary
- 109-Mile Natal Dispersal Area

Figure 4-1
Combined Effects to LAP Study Area

Amended Mine Plan of Operations for the
Gold Bar Mine Environmental Assessment
Eagle Take Permit Application

N

Miles
0 16 32

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# APPENDIX A

# Eagle Conservation Plan

# EAGLE CONSERVATION PLAN
# GOLD BAR SOUTH PROJECT
# EUREKA COUNTY, NEVADA

*Prepared for:*

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Stantec Project Number 203721437

October 17, 2022

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**ACRONYMS AND ABBREVIATIONS**

| | |
|---|---|
| **AMSL** | Above Mean Sea Level |
| **Atlas** | Atlas Precious Metals |
| **BGEPA** | Bald and Golden Eagle Protection Act |
| **BLM** | Bureau of Land Management |
| **CFR** | Code of Federal Regulations |
| **ECP** | Eagle Conservation Plan |
| **EIS** | Environmental Impact Statement |
| **GIS** | Geographic Information System |
| **ha** | Hectare |
| **McEwen** | McEwen Mining Inc. |
| **NDOW** | Nevada Department of Wildlife |
| **Plan** | Plan of Operations |
| **project** | Gold Bar South Project |
| **REA** | Resource Equivalency Analysis |
| **study area** | The project footprint itself (Plan boundary) 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 an application for a take permit under the permit regulations of the Bald and Golden Eagle Protection Act (BGEPA), Title 50 Code of Federal Regulations (CFR) subsection (§) 22.26, to cause disturbance take at up to four golden eagle (*Aquila chrysaetos*) nests representing a single nesting territory. This request is for nests associated with the proposed Gold Bar South Project (project). The project is located entirely within Eureka County, Nevada (**Figure 1**). The project is for the proposed development of a new above-ground open pit mine known as the Gold Bar South Project, as authorized by the Bureau of Land Management (BLM) Battle Mountain District Office.

McEwen Mining Inc. (McEwen) retained Stantec Consulting Services Inc. to assist in the preparation of this ECP. This ECP provides the necessary supporting materials to accompany an eagle nest "take" permit application and demonstrates 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 incidental disturbance take of four nests, associated with a single eagle territory, located within one mile of the proposed mining disturbance for the project (nests RCR-01, RCR-02, RCR-03, and RCR-04).

Components of this ECP include:

- A short history of mining activity in the vicinity of the Gold Bar Mine;
- A description of approved activities at the Gold Bar Mine and surrounding area;
- A discussion of the regulatory framework related to permitting activities involving the take of golden eagles and golden eagle nests, and guiding the development of this ECP;
- A review of golden eagle biology;
- A discussion of habitats found in the 10-mile radius of the project area;
- A description of the golden eagle nesting population within a 10-mile radius of the proposed Plan of Operations (Plan) boundary;
- An assessment of the risks to golden eagles posed by the project;
- A review of conservation measures the Gold Bar Mine could employ to minimize the potential risk;
- Mitigation; and
- Monitoring.

# 2.0 INTRODUCTION AND BACKGROUND

Mining in the Antelope Mining District / Southern Roberts Mountains began in the 1960s with numerous small exploration projects. In 1983, Atlas Precious Metals (Atlas) discovered gold ore in the area and mining began in 1986 with production starting in 1987. By 1990, mining was completed, and production ceased in 1994. After 1994, several joint ventures between Atlas and other companies conducted sporadic exploration in the area, but no mining occurred. In 2012, McEwen began the permitting process for the new Gold Bar Mine and the Final Environmental Impact Statement (EIS) was published in November 2017. Following the Final EIS, mining and expanded exploration resumed in the area. In 2019, the Gold Bar Mine began production and achieved 30,700 gold ounces produced in the first year. As a result of the exploration that resumed after the Final EIS, the estimated gold resources present in the project area was increased and planning for mine expansion in the south area began. In 2020, exploration in the project area has continued.

Specific to the Antelope Mining District, a short summary of its history is provided below:

- Exploration occurred in the area during the 1960s;
- In 1983, Atlas discovered gold ores in the area;
- In 1986, the Atlas Mine opened and mining continued until 1990;
- McEwen began permitting a new mine in 2012, and the Final EIS was published in 2017; and
- In 2018, McEwen's Gold Bar Mine began mining and expanded exploration in the area.

The Gold Bar Mine project area includes approximately 5,362 acres of public lands administered by the BLM Battle Mountain District Office. An additional 1,396 acres are proposed to be included with the project area.

On November 7, 2017, the BLM Battle Mountain District Mount Lewis Field Office issued a Record of Decision and Plan of Operations Approval to McEwen for the existing Gold Bar Mine (DOI-BLM-NV-B010-2015-0010-EIS) and associated 1,154 acres of project-related disturbance. Shortly after issuance of the Record of Decision, an Amended Plan of Operations was approved by the BLM on November 21, 2017 for the inclusion of trailers for office and storage space and associated generators, for zero acres of additional disturbance. On July 20, 2018, the BLM approved a second Amended Plan of Operations for the Gold Bar Mine project which included changes to the Gold Pick Pit and associated facilities to optimize construction of the Gold Bar Mine project for an additional 31 acres of disturbance. McEwen is now requesting an expansion that would bring the total disturbance to 1,398 acres (**Figure 2**). In connection with the mine development, McEwen would continue to implement all protection measures currently in place as well as the protection measures described below.

General mine components for the proposed project:

- Permit the proposed Gold Bar South expansion, as amended.

- One new open pit within the proposed Gold Bar South area,
- Laydown yards within the proposed Gold Bar South area and Gold Bar Mine area,
- One waste rock dump within the proposed Gold Bar South area,
- Approximately 24,500 linear feet of haul road to transport ore from the proposed Gold Bar South area to the existing heap leach at the existing Gold Bar Mine;
- Sediment basins and sediment basin access roads.

# 3.0 REGULATORY FRAMEWORK

## 3.1 BALD AND GOLDEN EAGLE PROTECTION ACT

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 by regulation as "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 substantially expanded in 2009 and revised in 2016. Known as the "Eagle Permitting Rule," these regulations allow the United States Fish and Wildlife Service (USFWS) to administer a permit program allowing for the lawful take of eagles and nests.

This ECP supports McEwen's application for a permit under 50 CFR § 22.26 for potential disturbance take to occur within a single territory within a three-year period (the estimated permit issuance date through at least a two-year extended mine life).

An application for a take permit under 50 CFR § 22.26 requires the following information:

- 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 6.0).
- The duration of the permit (see Section 2.0).
- A description of the project activity as it relates to eagles, including:
    - A description of the activity (see Section 2.0);
    - The dates the activity will start and is projected to end (see Section 2.0 and the Gold Bar South Plan);
    - An explanation of why the take of eagles is necessary, including what interests will be protected by the project or activity (see Section 6.0); and
    - The location of the activity, including maps, photographs, and geographic coordinates, as appropriate (see Section 6.0 and accompanying figures).
- 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 Section 6.0);
    - Location of the eagle activity, including geographic coordinates and, as appropriate, maps, digital photographs, and other information (see Section 6.0; **Appendices A** and **B**; and **Figures 1** through **6**);
    - History of the nest occupation, roost area, or important use area, if known (see Section 6.0; and **Appendices A** and **B**); and

    - If known, the specific distance and locations of nests and other eagle-use areas from the project footprint (see Sections 6.2 and 6.3).

- 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 Section 7.0 and **Figure 6**);
    - The extent of existing activities in the vicinity that are similar in nature, size, and use to your activity and the distance between those activities and the important eagle use areas (see Section 6.0 and accompanying figures);

- 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 6.0, 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 (see Section 6).

This ECP supports McEwen's application for a permit under 50 CFR § 22.26 to take four nests within a single territory via disturbance activities occurring within one mile of the nest.

# 4.0 GOLDEN EAGLE BIOLOGY

The golden eagle is a bird of open and semi-open habitats (Kochert and Steenhof, 2002). The species is found primarily in mountainous canyon land, rimrock terrain of open desert, tundra, and grassland areas of the western United States. Open habitats are used for foraging, and preferred foraging habitat in southwestern Idaho is shrubland, particularly sagebrush (*Artemisia* spp.) and rabbitbrush (*Chrysothamnus/Ericameria* spp.) habitats. Similar shrublands occur across northern Nevada.

Food is primarily small- to medium-sized mammals, particularly black-tailed jackrabbits (*Lepus californicus*), but golden eagles have been known to take larger prey (Kochert and Steenhof, 2002). Cattle and wild/feral horses are present in the surrounding area, representing a potential source of large carrion. Black-tailed jackrabbits and cottontails (*Sylvilagus nuttallii*) are reported to be the main prey in the Great Basin, with yellow-bellied marmots (*Marmota flaviventris*) and Paiute ground squirrels (*Spermophilus mollis*) or rock squirrels (*Spermophilus variegatus*) as the chief secondary prey (Arnell, 1971; Bloom and Hawks, 1982). Marzluff et al. (1997) reported that black-tailed jackrabbits, Townsend's ground squirrels (*Spermophilus townsendii*), and rock doves (*Columba livia*) were the primary prey species taken during a 1992 to 1994 study in the Snake River Birds of Prey area in southwestern Idaho. Kochert et al. (2007) stated that leporids (rabbits and hares) and sciurids (squirrels) constituted 49 to 94 percent of individual prey items taken during the nesting season, as reported in 24 studies throughout western North America. Cover types with perennial herbaceous understory generally support larger populations of leporids and sciurids and represent important eagle habitat within the region. Callopy and Edwards (1989) noted that black-tailed jackrabbits were the most important food items for golden eagles in their study, and their data suggest that territory size is inversely related to the amount of quality jackrabbit habitat. They found that jackrabbit densities were highest in greasewood (*Sarcobatus* sp.) habitats (1.45 jackrabbits per hectare [ha], or 0.59 jackrabbits per acre), followed by big sagebrush (*Artemisia tridentata* ssp. *spiciformis*) (0.78 per ha, or 0.32 jackrabbits per acre), followed by shadscale saltbush (*Atriplex confertifolia*)/common winterfat (*Krascheninnikovia* sp.) (0.36 jackrabbits per ha, or 0.15 jackrabbits per acres), followed by big sagebrush/common winterfat (0.13 jackrabbits per ha, or 0.05 jackrabbits per acre) (Callopy and Edwards, 1989).

Golden eagles are territorial, defending an area of approximately 7.7 to 11.5 square miles from other golden eagles. Three studies conducted in southeastern Idaho found that breeding-season home range varied from approximately 11 to 13 square miles. Breeding home ranges may be smaller than winter home ranges, and patterns of use may shift seasonally. Home range boundaries may remain consistent for long periods (over 20 years), but pairs may expand their home range into adjacent vacant territories (Kochert et al., 2007).

It has been noted that golden eagles do not use all areas within their home range but instead concentrate activity within core areas (Platt, 1984; Kochert et al., 2007; Marzluff et al., 1997). Radio-tagging studies conducted in southwestern Idaho found that 95 percent of detections were recorded in core areas, but these areas occupied less than 15 percent of the breeding-season home range and about 25 percent of the non-breeding season range (Marzluff et al., 1997). These studies also found that the ranges of neighboring pairs overlapped slightly in the breeding season but that overlap increased during non-breeding season. Kochert et al. (2007) note that related

individuals may be tolerant of each other, citing a case of four generations of six related individuals flying together on multiple occasions. Trios of birds have also been reported together during the nesting season (Kochert et al., 2007).

Golden eagles typically nest on cliffs or outcrops, but they also nest in trees, and occasionally on transmission line structures and other anthropogenic features. Ground nests have also been reported in areas where no other suitable substrate occurs, such as on the tundra in Alaska. The nest site often provides a commanding view of the surrounding landscape (Beecham, 1970; Kochert and Steenhof, 2002). In Nevada, golden eagles generally nest on cliffs and outcrops or, less commonly, in trees.

Nest building may begin one to three months prior to egg laying, though material may be added to nests at any time (Kochert and Steenhof, 2002). Peak nest building or refurbishing occurs from January to March (Watson, 1997). Bowl construction, the final stage of nest construction, occurs during the final three to four weeks before egg laying (Kochert and Steenhof, 2002). Alternate nests are common, with the number of alternate nests within a single territory varying from two to 14 (Kochert and Steenhof, 2002). A more recent study conducted by Kochert and Steenhof (2012) documented as many as 18 alternate nests within a single territory. Of 65 golden eagle pairs nesting on cliffs in the Snake River Canyon, all had alternate nests (USGS, unpublished, in Kochert and Steenhof, 2002). In a long-term southwestern Idaho study conducted between 1966 and 2011, Kochert and Steenhof (2012) found that the period between reuse of nests ranged from one to 39 years. This study found that over a period of 45 years, golden eagles used a total of 454 nests in 66 territories. Individual nests were used between one and 26 times. Nest switching was associated with turnover of at least one member of a golden eagle pair, but also occurred due to unknown factors. Golden eagles utilized the same nest between three and 20 consecutive years. This study also found the distance between alternate nests varied from less than one meter to more than 1,800 meters (1.1 miles). Only 10 percent of these alternate nests were more than 500 meters apart. Kochert and Steenhof (2012) note, however, that this study was conducted in an area with a high density of nesting golden eagles, with nesting habitat distributed in a linear fashion along the Snake River in southwestern Idaho. Greater distances between alternate nests have been reported in habitats with non-linear and presumably less dense potential nesting habitat (McGahan, 1968; Lockie and Ratcliffe, 1964). Phillips et al. (1990) found that documented distances between alternative nests of individual pairs varied from zero to 3.4 kilometers (or zero to 2.11 miles).

Golden eagles typically breed after attaining adult plumage, which is usually acquired in the fifth summer, but are capable of breeding earlier (Steenhof et al., 1984). Egg laying begins as early as late January or early February in southwestern Idaho and southern California (Dixon, 1937; Hickman, 1968). In northern Nevada, Worley (1984) recorded golden eagles on nests as early as late February. Females are reported to settle into an incubation posture on the nest before the first egg is laid. Incubation ranges from 41 to 45 days (Kochert and Steenhof, 2002). In southwestern Idaho, hatching dates were correlated with both winter severity and jackrabbit abundance; golden eagles hatched earlier when rabbits were abundant and later after severe winters (Steenhof et al., 1997). Young are reported to leave the nest as early as 45 days of age (USGS, unpublished, in Kochert and Steenhof, 2002) and as late as 81 days (Gordon, 1955). United States Geological Survey data documented 101 chicks from 61 broods in southwestern Idaho averaged 64.4 days (range 45-77) old at departure from nest (USGS, unpublished, in Kochert and Steenhof, 2002).

Reproductive success varies depending on prey availability and weather. In southwestern Idaho, the percentage of females that laid eggs each year was positively related to jackrabbit abundance and inversely related to winter severity, while the percentage of females successfully raising broods was positively related to rabbit abundance and inversely related to the frequency of hot spring days when nestlings are susceptible to heat stress (Steenhof et al., 1997). Steenhof et al. (1997) noted that in southwestern Idaho, jackrabbit abundance limited reproduction during 15 of 23 years. Several authors have noted that many pairs do not lay eggs during periods of low prey abundance (Smith and Murphy, 1979; Steenhof et al., 1997; McIntyre and Adams, 1999). Kochert et al. (2007) stated that the percentage of pairs that lay eggs each year was the most variable reproductive component in both southwestern Idaho and in interior Alaska. Steenhof et al. (1997) found that over a 22-year period in southwestern Idaho, this percentage varied from 38 to 100 percent. Over a 10-year period in Denali National Park, McIntyre and Adams (1999) found this figure varied from 33 to 90 percent of pairs.

Kochert et al. (2007) cite several studies that found the percentage of eggs that hatch varies from 57 to 86 percent of eggs laid, and that the percentage of hatched young that fledge varies from 46 percent in Montana (Reynolds, 1969), 77 percent in southwestern Idaho, and 80 percent in Utah.

Kochert and Steenhof (2002) cite several studies that indicate the number of successfully fledged young per year from individual nests varies from 0.66 young per nest per year in Alaska to 1.08 young per nest per year in Oregon. The number of successfully fledged young may be somewhat higher in Nevada. Newmont (2012) provides a review of golden eagle biology and population status in Nevada. It cites a study by Page and Seibert (1973) that found 50 nests in Elko County fledged an average of 1.1 young per nest per year. Worley (1984) documented a fledging rate of over 1.7 young per nest per year from 27 northeastern Nevada nests studied in 1979 and 1980. Ryser (1985) notes the Nevada Department of Wildlife (NDOW) also documented a fledging rate of 1.7 young per nest per year during this same two-year period (Herron and Lucas, 1979; Herron et al., 1980). Since these studies date to the 1980s or earlier, they may not capture more recent habitat changes caused by wildland fire within Nevada. Recent research by fire ecologists has documented that (1) over the last four decades, wildfires have become larger, and large fires have become more frequent across the western United States (Miller and Safford, 2012); (2) increases in fire-adapted grasses, primarily cheatgrass, has increased the rate of fire spread (Chambers, 2008); and (3) cheatgrass invasion has resulted in fires burning more arid salt desert scrub ecosystems that did not previously burn (Brooks and Pyke, 2001). These changes may reduce the golden eagle prey base and, in turn, result in lower fledging rates. In southwestern Idaho for example, Kochert et al. (1999) note that "some pairs abandoned territories after wildfires destroyed jackrabbit habitat adjacent to Snake River Canyon; remaining pairs expanded their ranges and subsumed neighboring vacant territories, resulting in a smaller nesting population."

The project is located within the Great Basin Bird Conservation Region, which includes portions of northeastern California, eastern Oregon and Washington, most of Nevada, western Utah, southern Idaho, and southern British Columbia. The annual rate of change from the population projection model averaged 0.998 (95% confidence interval 0.997-0.999) and suggested that golden eagles in the western United States might be gradually declining toward a new, lower equilibrium of about 26,000 individuals (USFWS, 2016a).

The USFWS Status Report estimates that the leading projected causes of death for adult golden eagles are anthropogenic causes including being shot and poisoning, followed by natural causes such as fighting. Other causes of anthropogenic mortality include collisions, trapping, lead toxicosis, and electrocution. Other natural causes include starvation and disease, injury drowning, and predation. Subadult mortality is most likely due to poisoning, electrocution, and starvation and disease. Young golden eagles, or those within their first year of hatching, are most susceptible to mortality by starvation, followed by electrocution and being shot (USFWS, 2016a).

# 5.0 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 (Plan boundary) and a surrounding 10-mile buffer area (**Figure 1**). Herein, this area is referred to as the study area.

## 5.1 FORAGING HABITAT

Vegetation communities in the study area have been mapped by the Southwest Regional Gap Analysis Project (SWReGAP) in land cover types for the study area (**Figure 3**) (USGS, 2011). The SWReGAP mapping shows 24 vegetation communities occurring within the study area. Three are mapped as over five percent of the study area Great Basin Pinyon-Juniper Woodland (19%), Inter-Mountain Basins Big Sagebrush Shrubland (52%), and Inter-Mountain Basins Montane Sagebrush Steppe (21%). Each of the remaining 21 communities were mapped as five percent or less of the study area. **Table 1** presents the total acres of the vegetation communities within the study area. A description of the dominant vegetation communities and their relevance for golden eagle use is provided below.

**Table 1 SWReGAP Vegetation Communities within the Study Area**

| Vegetation Community | Acres | Percent (%) |
|---|---|---|
| Great Basin Foothill and Lower Montane Riparian Woodland and Shrubland | 302.7 | 0.12 |
| Great Basin Pinyon-Juniper Woodland | 48,855.3 | 19.24 |
| Great Basin Xeric Mixed Sagebrush Shrubland | 9,375.9 | 3.69 |
| Inter-Mountain Basins Big Sagebrush Shrubland | 132,436.7 | 52.17 |
| Inter-Mountain Basins Big Sagebrush Steppe | 115.4 | 0.05 |
| Inter-Mountain Basins Cliff and Canyon | 325.4 | 0.13 |
| Inter-Mountain Basins Greasewood Flat | 1,799.1 | 0.71 |
| Inter-Mountain Basins Mixed Salt Desert Scrub | 775.6 | 0.31 |
| Inter-Mountain Basins Montane Sagebrush Steppe | 54,327.4 | 21.40 |
| Inter-Mountain Basins Mountain Mahogany Woodland and Shrubland | 2,295.6 | 0.90 |
| Inter-Mountain Basins Playa | 2.2 | 0.00 |
| Inter-Mountain Basins Semi-Desert Grassland | 1,066.5 | 0.42 |
| Inter-Mountain Basins Semi-Desert Shrub Steppe | 59.6 | 0.02 |
| Inter-Mountain Basins Subalpine Limber-Bristlecone Pine Woodland | 151.7 | 0.06 |
| Inter-Mountain Basins Wash | 1.6 | < 0.01 |
| Inter-Mountain West Aspen-Mixed Conifer Forest and Woodland Complex | 22.0 | 0.01 |
| Invasive Annual and Biennial Forbland | 2.7 | < 0.01 |
| Invasive Annual Grassland | 41.6 | 0.02 |
| Invasive Perennial Grassland | 1,152.4 | 0.45 |
| North American Arid West Emergent Marsh | 11.6 | < 0.01 |
| Recently Mined or Quarried | 717.0 | 0.28 |
| Rocky Mountain Aspen Forest and Woodland | 23.4 | 0.01 |
| Rocky Mountain Montane Mesic Mixed Conifer Forest and Woodland | 1.3 | < 0.01 |
| Rocky Mountain Subalpine-Montane Riparian Woodland | 4.0 | < 0.01 |
| **Total** | **253,866.4** | **100.00** |

**Great Basin Pinyon-Juniper Woodland**

This ecological system occurs on dry mountain ranges of the Great Basin region. It is typically found at lower elevations ranging from 5,200 to 8,500 feet above mean sea level (AMSL). These woodlands occur on warm, dry sites on mountain slopes, mesas, plateaus, and ridges. Severe climatic events occurring during the growing season, such as frosts and drought, are thought to limit the distribution of pinyon-juniper woodlands to relatively narrow altitudinal belts on mountainsides. Woodlands dominated by a mix of singleleaf pinyon (*Pinus monophylla*) and Utah juniper (*Juniperus osteosperma*), pure or nearly pure occurrences of singleleaf pinyon, or woodlands dominated solely by Utah juniper comprise this system. Curl-leaf mountain mahogany (*Cercocarpus ledifolius*) is a common associate. Understory layers are variable. Associated species include shrubs such as greenleaf manzanita (*Arctostaphylos patula*), little sagebrush (*Artemisia arbuscula*), black sagebrush (*Artemisia nova*), big sagebrush, littleleaf mountain mahogany (*Cercocarpus intricatus*), blackbrush (*Coleogyne ramosissima*), Gambel oak (*Quercus gambelii*), and bunch grasses such as needle and thread (*Hesperostipa comata*), Idaho fescue (*Festuca idahoensis*), bluebunch wheatgrass (*Pseudoroegneria spicata*), basin wildrye (*Leymus cinereus*), and muttongrass (*Poa fendleriana*) (USGS, 2011).

Within the study area, this community occurs in the mid- to high-mountain elevations. A less diverse diurnal golden eagle prey base occurs in this habitat type than is found in mid to lower elevation communities, and black-tailed jackrabbits do not typically occur here. This community provides limited habitat for golden eagle prey base, and as such, this community represents low-value golden eagle foraging habitat.

**Inter-Mountain Basins Big Sagebrush Shrubland**

This ecological system occurs throughout much of the western United States, typically in broad basins between mountain ranges, plains, and foothills between 5,000 and 7,500 feet AMSL. Soils are typically deep, well-drained and non-saline. These shrublands are dominated by basin big sagebrush (*Artemisia tridentata* ssp. *tridentata*) and/or Wyoming big sagebrush (*Artemisia tridentata* ssp. *wyomingensis*). Scattered juniper (*Juniperus* spp.), greasewood (*Sarcobatus vermiculatus*), and saltbush (*Atriplex* spp.) may be present in some stands. Rubber rabbitbrush (*Ericameria nauseosa*), yellow rabbitbrush (*Chrysothamnus viscidiflorus*), antelope bitterbrush (*Purshia tridentata*), or mountain snowberry (*Symphoricarpos oreophilus*) may codominate disturbed stands. Perennial herbaceous components typically contribute less than 25 percent vegetative cover (USGS, 2011).

Within the study area, this community occurs in the lower elevations. Black-tailed jackrabbits and mountain cottontails are commonly found in this community. As such, this community represents high-value golden eagle foraging habitat.

**Inter-Mountain Basins Montane Sagebrush Steppe**

This ecological system includes sagebrush communities occurring at montane and subalpine elevations across the western United States from 3,200 to over 9,800 feet AMSL. Climate is cool, semi-arid to sub-humid. This system primarily occurs on deep-soiled to stony flats, ridges, nearly flat ridgetops, and mountain slopes. In general, this system shows an affinity for mild topography, fine soils, and some source of subsurface moisture. It is composed primarily of mountain big sagebrush (*Artemisia tridentata* ssp. *vaseyana*) and related taxa such as big sagebrush. Desert bitterbrush (*Purshia tridentata*) may codominate or even dominate some stands. Other common shrubs include snowberry (*Symphoricarpos* spp.), serviceberry (*Amelanchier* spp.), rubber rabbitbrush,

wild crab apple (*Peraphyllum ramosissimum*), wax currant (*Ribes cereum*), and yellow rabbitbrush. Most stands have an abundant perennial herbaceous layer of over 25 percent cover, but this system also includes mountain big sagebrush shrublands. Common graminoids include Arizona fescue (*Festuca arizonica*), Idaho fescue, needle and thread, muttongrass, slender wheatgrass (*Elymus trachycaulus*), California brome (*Bromus carinatus*), Sandberg bluegrass, spike fescue (*Leucopoa kingii*), tufted hairgrass (*Deschampsia caespitosa*), pinegrass (*Calamagrostis rubescens*), and bluebunch wheatgrass. In many areas, frequent wildfires maintain an open herbaceous-rich steppe condition, although at most sites, shrub cover can be unusually high for a steppe system (greater than 40 percent), with the moisture providing equally high grass and forb cover (USGS, 2011).

Within the study area, this community occurs in the highest elevations. Black-tailed jackrabbits, mountain cottontails, and larger diurnal rodents such as yellow-bellied marmots may be found in this community. As such, this community represents high-value golden eagle foraging habitat.

**Other Habitat Types**

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.

The potential foraging value of the various habitat types present in the region has not been quantified, but in general, the Inter-Mountain Basins Big Sagebrush Shrubland, Great Basin Xeric Mixed Sagebrush Shrubland, and Inter-Mountain Basins Montane Sagebrush Steppe are believed to represent the highest-value native foraging habitat. These three communities account for about 77 percent of the mapped habitat within the study area.

## 5.2 NESTING HABITAT

Within the study area, various rock outcrops and mine highwalls were identified as areas with potential nesting golden eagles. In 2020, there was one in-use golden eagle nest documented in the study area located on a rock outcrop. Cliff and rock outcrops exist in the Roberts Creek Mountains as well as various isolated hill features around the project area. There are multiple open pits throughout the study area, primarily from the Atlas Mine and existing Gold Bar Mine.

## 5.3 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 potential golden eagle foraging habitat, though the value of this habitat varies in quality.

Cliffs and outcrops occur in the Roberts Creek Mountains as well as on isolated hill features around the project site. 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.

# 6.0 GOLDEN EAGLE NESTING POPULATION IN THE VICINITY OF THE GOLD BAR SOUTH EXPANSION PROJECT

To assess risks to golden eagles from the proposed project, the following landscape-level assessment broadly identifies potential golden eagles nesting in the study area.

The status of a golden eagle nest is determined by occupancy. This ECP incorporates the results of golden eagle nest monitoring conducted during the 2020 nesting season, which included two aerial surveys conducted to search the study area for golden eagle nests. The surveys were conducted per protocols described In the *Interim Golden Eagle Technical Guidance: Inventory and Monitoring Protocols* (Pagel et al., 2010). The two nest statuses found and used to describe the results of the 2020 survey are defined in the *Programmatic Environmental Impact Statement for the Eagle Rule Revision* (USFWS, 2016b) and are as follows:

**In-use Nest** – A bald or golden eagle nest characterized by the presence of one of more eggs, dependent young, or adult eagles on the nest in the past 10 days during the breeding season.

**Alternate Nest** – One of potentially several nests within a nesting territory that is not an in-use nest at the current time. When there is no in-use nest, all nests in the territory are alternate nests.

## 6.1 GOLDEN EAGLE NESTING SURVEYS AND INVENTORY

Golden eagle surveys have been conducted annually from 2017 through 2020 (**Appendix A**). Inventory and monitoring efforts have followed Pagel et al. (2010), which is the standard golden eagle survey protocol accepted by the USFWS. Surveys focused on completing a thorough inventory of nests within a recommended 10-mile radius and capturing information regarding nest occupancy, productivity, and success. This ECP incorporates the results of golden eagle nest monitoring conducted during the 2020 nesting season, as well as data previously collected and available for each nest.

A total of 13 golden eagle nest sites have been documented within the 10-mile radius of the Plan boundary over the past four years of surveys. **Table 2** lists each Nest ID acronym definition, and **Table 3** lists each nest site, along with its coordinates, and golden eagle nesting status per survey year (2017-2020). All golden eagle nest locations provided in **Table 3** are shown on **Figure 4**. The location of the four nest sites within the single territory subject to disturbance take are shown in detail on **Figure 5** and in bold font in **Table 3.** Additionally, **Table 3** is organized by territory; discussion of the territories delineated is presented in Section 6.2.

**Table 2 Eagle Nest Survey Location Naming Conventions**

| | |
|---|---|
| RCR | Roberts Creek Reservoir |
| RCU | Rutabaga Creek |
| RC | Roberts Creek |
| PHC | Pete Hanson Creek |
| WP | Western Peak |
| HS | Henderson Summit |

| | |
|---|---|
| GPC | Garden Pass Creek |
| DC | Denay Creek |

**Table 3 Golden Eagle Nests in the Study Area and Status (2017-2020)**

| Territory | Nest ID | Easting | Northing | 2017 Nest Status | 2018 Nest Status | 2019 Nest Status | 2020 Nest Status |
|---|---|---|---|---|---|---|---|
| 1 | **RCR-01** | [redacted] | [redacted] | In-use (GOEA) | Alternate | Alternate | Alternate |
| | **RCR-02** | [redacted] | [redacted] | Alternate | In-use (GOEA) | Alternate | Alternate |
| | **RCR-03** | [redacted] | [redacted] | Alternate | Alternate | Alternate | Alternate |
| | **RCR-04** | [redacted] | [redacted] | Alternate | Alternate | Alternate | Alternate |
| 2 | DC-01 | [redacted] | [redacted] | In-use (GOEA) | Alternate | Alternate | Alternate |
| | RC-01 | [redacted] | [redacted] | Alternate | Alternate | Alternate | Alternate |
| 3 | RC-02 | [redacted] | [redacted] | Alternate | Alternate | Alternate | Alternate |
| 4 | PHC-01 | [redacted] | [redacted] | Alternate | Alternate | Alternate | Alternate |
| 5 | RUC-01 | [redacted] | [redacted] | Alternate | Alternate | Alternate | Alternate |
| 6 | WP-01 | [redacted] | [redacted] | - | - | - | Alternate |
| 7 | GPC-01 | [redacted] | [redacted] | - | - | Alternate | Alternate |
| 8 | GPC-02 | [redacted] | [redacted] | - | - | - | In-use (GOEA) |
| 9 | HS-01 | [redacted] | [redacted] | - | - | Alternate | Alternate |

-- Nest not surveyed or no data available
GOEA = golden eagle
Nests shown in bold font are subject to disturbance take.

## 6.2 GOLDEN EAGLE NESTING TERRITORIES

### 6.2.1 Methodology

For the purposes of this ECP, an eagle territory is defined consistent with 50 CFR § 22.3, as an area that contains one or more nests within the home range of a mated pair of eagles regardless of whether such nests were built by the current resident pair. The golden eagle nesting territories for the study area have been delineated based on the 2017 through 2020 survey results.

As described in Section 4, Kochert and Steenhof (2012) found that distances between nearest alternate nests within territories ranged between less than one to 1,822 meters (or less than one to 1.13 miles) and Phillips et al. (1990) found that documented distances between alternate nests of individual pairs varied from zero to 3,400 meters (or zero to 2.11 miles). These ranges in published data aided in the delineation of territories for the project.

Territory delineations were based on proximity of nests to one another, concurrent occupancy of adjacent nests, alternating occupancy (from year to year) of adjacent nests within a cluster, and nearest available quality nesting substrate (i.e., rock outcrop, cliff, pit highwall, etc.). These delineations represent the biological opinion of wildlife biologists and are subject to modification when/if new data are found that justify re-delineation.

Narratives for each territory are provided below and visual representations are presented within **Figure 4**. The territory and associated nest descriptions present nest distances from each other and specific documented nest use data. While the following assessment of nest associations within territories focuses on observations made in 2020, the assessment is based on observations compiled over the entire four-year monitoring effort, the results of which are presented in **Table 3**.

### 6.2.2 Territory Delineations

Using the approach outlined above, a total of nine distinct territories were delineated in the study area. The total number of territories could be biased due to the size and position of the survey area on the landscape. Specifically, those territories along the perimeter of the study area that occur in suitable nesting habitat could include other nests that are just outside the study area. However, the delineations are representative of the data available.

The territories delineated are discussed below based on where they occur in relation to the study area and are separated by those territories located within the Plan boundary and those located outside of the Plan boundary. If a single nest within a cluster occurred inside the Plan boundary, but other nests within that territory fell outside the Plan boundary, the territory was still considered within the Plan boundary.

#### 6.2.2.1 Territories within One Mile

**RCR-01, RCR-02, RCR-03 and RCR-04**

These four nests are within 0.6 miles of each other and less than one mile from proposed mine facilities. The closest adjacent nests are nests HS-01 and RC-02 at 4.5 miles to the northeast and 5.6 miles to the north, respectively. The nests within this territory have never been simultaneously in-use by golden eagles within the same breeding season. Based on the data gathered and the locations of the adjacent nests relative to nests RCR-01, RCR-02, RCR-03, and RCR-04, it is assumed these four nests represents a unique territory.

#### 6.2.2.2 Territories Outside of One Mile

**RC-01 and DC-01**

Nests RC-01 and DC-01 are thought to represent a unique territory as they are located about 1.25 miles from each other. The two closest nests to this territory are nests RC-02 and RUC-01, which are both 2.6 miles to the east and southwest respectively. Nests RC-02 and RUC-01 are thought to be part of separate territories due to proximity and topography.

**RC-02**

Nest RC-02 is thought to represent its own territory as no nests are immediately adjacent to this nest. The two closest nests, RC-01 and DC-01, are 2.6 miles to the west and 3.6 miles to the west, respectively. Nests RC-01 and DC-01 are thought to be part of a separate territory due to proximity and topography.

**PHC-01**

Nest PHC-01 is thought to represent its own territory as no nests are immediately adjacent to this nest. The two closest nests are WP-01 and DC-01. Nest WP-01 is 2.0 miles to the north, and nest DC-01 is 2.8 miles to the south-southwest. Nests WP-01 and DC-01 are thought to be part of separate territories due to proximity and topography.

**RUC-01**
Nest RUC-01 is thought to represent its own territory as no nests are immediately adjacent to this nest. The two closest nests are DC-01 and RC-01. Nest DC-01 is 2.7 miles to the north-northeast and nest RC-01 is 2.6 miles to the northeast. Nests DC-01 and RC-01 are thought to be part of a separate territory due to proximity and topography.

**WP-01**
Nest WP-01 is thought to represent its own territory as no nests are immediately adjacent to this nest. The two closest nests are PHC-01 and RC-02. Nest PHC-01 is 2.0 miles to the south and nest RC-02 is 5.4 miles to the south-southeast. Nests RC-02 and PHC-01 are thought to be part of separate territories due to proximity and topography.

**GPC-01**
Nest GPC-01 is thought to represent its own territory as no nests are immediately adjacent to this nest. The two closest nests are GPC-02 and HS-01. Nest GPC-02 is 2.6 miles to the north-northwest and nest HS-01 is 6.8 miles to the west-northwest. Nests GPC-02 and HS-01 are thought to be part of separate territories due to proximity and topography.

**HS-01**
Nest HS-01 is thought to represent its own territory as no nests are immediately adjacent to this nest. The two closest nests are RC-02 and RCR-01. Nest RC-02 is 2.6 miles to the west-northwest and nest RCR-01 is 2.6 miles to the southwest. Nests RC-02 and RCR-01 are thought to be part of separate territories due to proximity and topography.

**GPC-02**
Nest GPC-02 is thought to represent its own territory as no nests are immediately adjacent to this nest. The two closest nests are GPC-01 and HS-01. Nest GPC-01 is 2.6 miles to the south-southeast and nest HS-01 is 5.4 miles to the west. Nests GPC-01 and HS-01 are thought to be part of separate territories due to proximity and topography.

# 6.3 GOLDEN EAGLE PRODUCTIVITY

## 6.3.1 Occupancy

### 6.3.1.1 Individual Nests

Of the 13 golden eagle nests identified within the study area, all 13 nests were able to be surveyed in 2020. Of the 13 golden eagle nests surveyed in 2020, one nest was in-use by golden eagles for an average occupancy of 0.077 within the study area. For previous years and how they compare to 2020 use, see **Table 4** and **Graph 1**. Note that the survey boundaries have varied over the last four years of surveys. A brief description of each survey year and associated boundary is provided below. A figure of each survey area by year is provided in **Appendix B**.

- In 2017, two flights were conducted in a 10-mile buffer around the existing Gold Bar Mine and a 0.5-mile buffer around the power transmission line to the Gold Bar South Exploration area was surveyed (GBE, 2017).

- In 2018, two aerial surveys were conducted in a two-mile buffer around the existing Gold Bar Mine. The first survey was conducted within a two-mile buffer around the active mine Plan boundary. The second survey was slightly larger to include a two-mile buffer around

the active Plan boundary and mining claims held by McEwen, including the Gold Bar South Exploration area (Western Biological, 2018).

- In 2019, two aerial surveys were conducted in a 10-mile buffer around the existing Gold Bar Mine and the Gold Bar South exploration area (Western Biological, 2019).

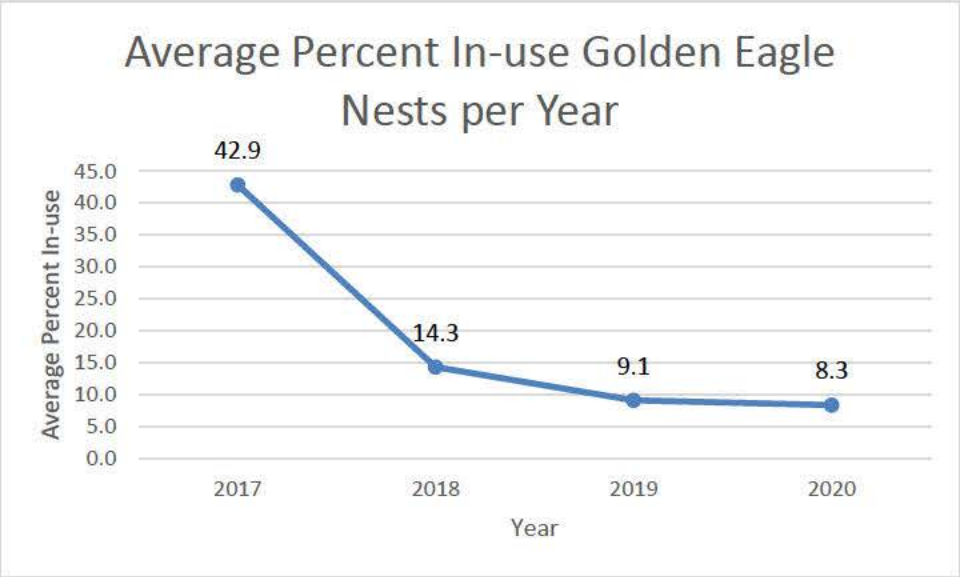
- In 2020, two aerial surveys were conducted in a two-mile buffer around the existing Gold Bar Mine and a 10-mile buffer around the Gold Bar South exploration area (Western Biological, 2020).

**Table 4 Average and Total Nest Occupancy Per Year**

| Year | Total In-Use Golden Eagle Nests* | Total Surveyed Golden Eagle Nests* | Average Percent In-use Golden Eagle Nests* |
|---|---|---|---|
| 2017 | 3 | 7 | 42.9 |
| 2018 | 1 | 7 | 14.3 |
| 2019 | 1 | 11 | 9.1 |
| 2020 | 1 | 13 | 7.7 |

*Average and totals do not include nests that could not be located. Nests in-use by a species other than golden eagle are included in the totals and averaged as an alternate nest. It should also be noted that searcher efficiency associated with increased survey effort and the survey area size may be influencing the total number of nests identified from year to year.

**Graph 1 Average Percent In-Use Golden Eagle Nests per Year**




### 6.3.1.2 Territories

All of the nine territories delineated within the 10-mile radius of the Plan boundary were surveyed in 2020, and one was in-use. Territory occupancy per survey year (2017-2020) is shown in **Table 5** and **Graph 2**.

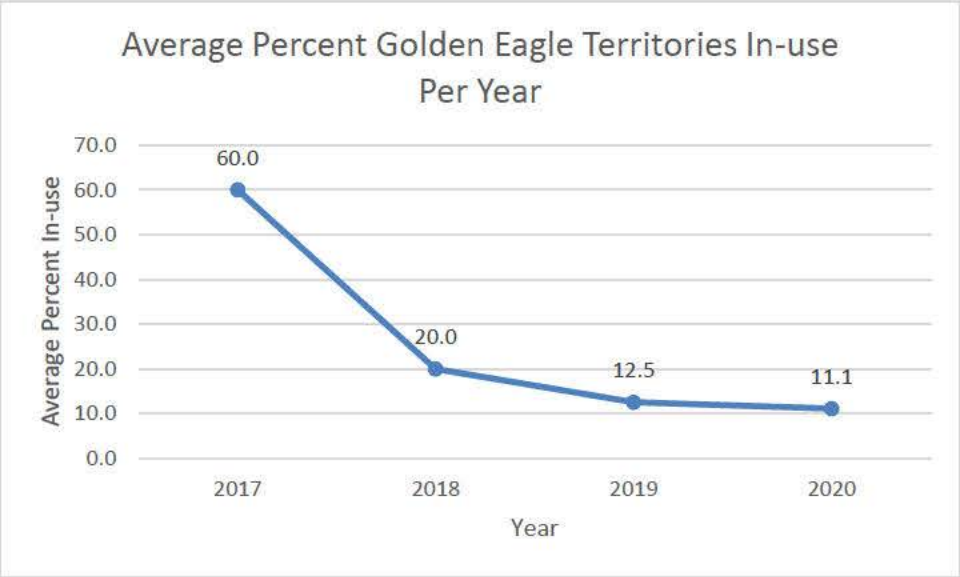
The occupancy rate of territories within the study area, determined in this ECP by nest occupancy each year, has ranged from approximately 11.1 percent to 60.0 percent over the course of the four years of surveys. The highest two recorded values were in 2017 and 2018, which were 60 and 20 percent respectively, but also represented a slightly altered survey area from the final survey boundary.

**Table 5 Territory Occupancy Per Year**

| Year | Total In-use Golden Eagle Territories* | Total Surveyed Golden Eagle Territories* | Percent Golden Eagle Territories In-use* |
|---|---|---|---|
| 2017 | 3 | 5 | 60.0 |
| 2018 | 1 | 5 | 20.0 |
| 2019 | 1 | 8 | 12.5 |
| 2020 | 1 | 9 | 11.1 |

*Territory is not considered in-use if occupied by another species or if all nests within the territory could not be found. Additionally, in some years, not all nests associated with a territory were surveyed because either they did not yet exist/were not yet known, or they could not be located.

**Graph 2 Percent Golden Eagle Territories In-Use Per Year**




The reported territory occupancy rate should be recognized as an estimate because early-season nest attempts that failed may have been missed depending on the timing of the survey, and territories that occur along the outer edges of the survey area may not accurately represent actual occupancy because additional nests within the territory may occur outside of the study area. Accordingly, their influence on the territory's occupancy determination could be biasing the dataset. Additionally, territories were not considered in-use if occupied by another species or if all nests within the territory could not be found. Additionally, in some years, not all nests associated with a territory were surveyed because either they did not yet exist, were not know at the time of the survey, or they could not be located.

The occupancy rate of the territories within the study area generally lower than values presented by Steenhof et al. (1997), which was 38 to 100 percent, and McIntyre and Adams (1999), which was 33 to 90 percent. The rates reported here are lower than the reported occupancy documented in nearby Utah's western Great Basin found by Slater et al. (2013). Slater et al. (2013) examined long-term trends in rates of territory occupancy and activity, reporting that long-term rates of territory occupancy generally ranged from 50 percent to 70 percent occupancy.

## 6.3.2 Fledged Young

### 6.3.2.1 Individual Nests

Individual nest data were analyzed for 2020, and average eggs per nest and young per nest were calculated. The 2020 analysis showed an average of two eggs per nest (based on assumed data) and an average of 2 young per nest, with only one active GOEA nest observed. These values are presented in **Table 6.** It should be noted that surveys were not conducted specifically to collect egg or young numbers, and specific reproduction information may have been missed during the survey.

**Table 6 Eggs and Young Observed on In-use Nests**

| Nest ID | Eggs per In-Use Nest | Young per In-Use Nest | Year | Comment |
|---|---|---|---|---|
| GPC-02 | 2 | 2 | 2020 | |
| RUC-01 | - | - | 2019 | No additional nest data |
| RCR-02 | - | 2 | 2018 | |
| RCR-01 | - | 1 or 2 | 2017 | |
| DC-01 | - | - | 2017 | No additional nest data |
| **Average (per in-use nest)** | **2** | **1.6 young** | | |

#### 6.3.2.2 Territories

The number of fledged young per territory in the study area (regardless of occupancy) in 2019 was zero and 0.22 in 2020. Kochert and Steenhof (2002) cite several studies that indicate the number of successfully fledged young per year from individual nests varies from 0.66 young per nest per year in Alaska to 1.08 young per nest per year in Oregon. Worley (1984) documented a fledging rate of over 1.7 young per nest per year from 27 nests in Elko County studied in 1979 and 1980. Ryser (1985) notes NDOW also documented a fledging rate of 1.7 young per nest per year during this same two-year period (Herron and Lucas, 1979; Herron et al., 1980). Page and Seibert (1973) found that 50 nests in Elko County fledged an average of 1.1 young per nest per year. The values for this study area are comparable to the range of brood sizes observed in the literature and indicate that this eagle population is relatively similar, although the sample size is very small for this study area.

## Territories Subject to Take

This ECP is to address incidental disturbance related take to the following nests and nest territories that occur within one mile of the proposed Gold Bar South Mine boundary. **Figure 5** presents a visual representation of the nests and territory associations subject to potential disturbance take.

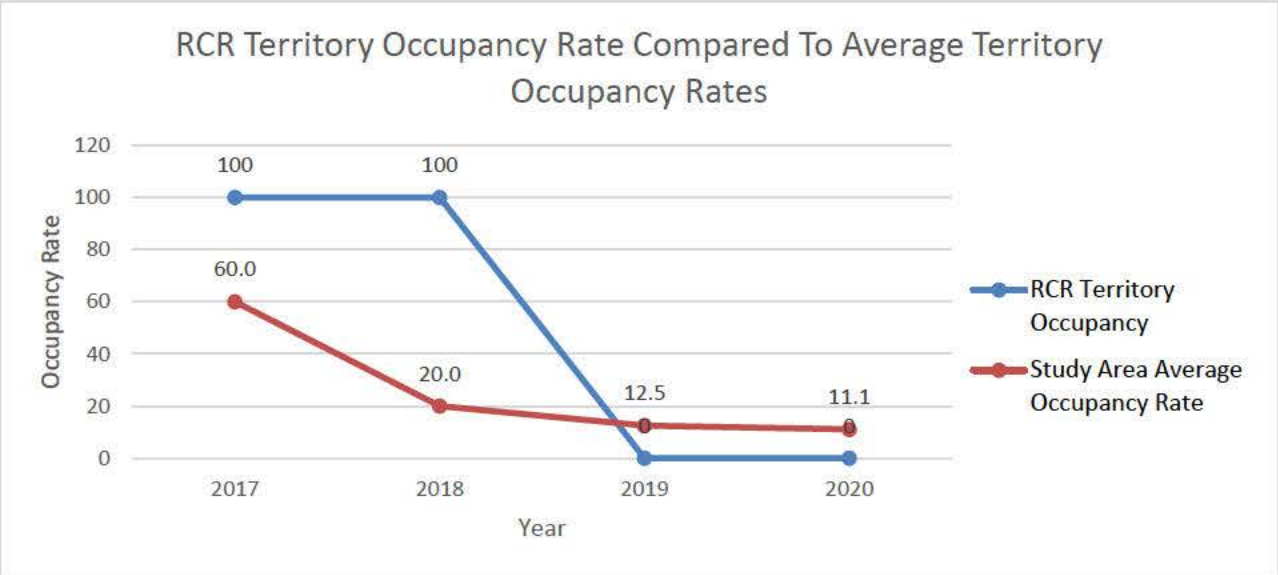
### 6.3.3 RCR-01, RCR-02, RCR-03, and RCR-04

RCR-01, RCR-02, RCR-03, and RCR-04 were found and identified as a golden eagle nests in 2017 and RCR-01 and RCR-02 are were the only nests within the territory to be documented as active in 2017 and 2018, respectively (**Graph 3**). This site occurs within one mile of proposed disturbance.

**Occupancy and Productivity**

The nest RCR-01 was documented to have one or two eaglets in 2017 and nest RCR-02 was documented to have two eaglets in 2018. The territory has not been documented in-use since 2018.

**Graph 3 RCR Territory Occupancy**



# 7.0 RISK ASSESSMENT

A major component of the risk assessment is to identify project activities that could result in a take. 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 of the project.

Principal risks to golden eagles from gold mining are generally low, and include activities associated with active mining operations, roads, utilities, and exploration. McEwen is requesting, as a result of the project, the authorization of incidental disturbance take of up to four nests (RCR-01, RCR-02, RCR-03, and RCR-04) representing a single territory. The take of these four nests would occur in the form of potential disturbance and surface activities associated with open-pit mining (noise, development, blasting, waste rock and ore hauling, etc.) as these nests are within one mile of proposed mining activity and two miles of surface blasting. This take would not involve the physical removal or destruction of the nests and would be temporary, occurring only during the permitted mining and mine reclamation activities. Regardless, disturbance take of these nests would likely result in the temporary loss of productivity of this territory. A viewshed analysis has been conducted using Geographic Information System (GIS) tools and is presented as **Figure 6** to illustrate the portions of anthropogenic activity that are within line-of-sight from the golden eagle nests subject to take. Mitigation required for the associated loss of productivity is detailed in Section 9.0 of this ECP.

An additional nest (RUC-01), thought to represent a single territory, falls within two miles of authorized pit blasting. This nest is not being requested for disturbance take, though the USFWS guidance states that potential impacts could occur due to being within two miles. RUC-01 is within 1.69 miles from an open pit, but has an abundance of topographic shielding between it and the pit. A viewshed of this nest is included on **Figure 6**, which demonstrates that it is not within line-of-sight and thereby shielded from visual and noise impacts.

# 8.0 CONSERVATION MEASURES

## 8.1 EXISTING APPLICANT-COMMITTED CONSERVATION MEASURES

McEwen currently employs conservation measures associated with current authorized activities at the existing Gold Bar Mine and has committed to continuing to employ these measures. Conservation measures specific to golden eagles are provided in **Table 8** and other conservation measures specific to other avian species are provided in **Table 9**.

**Table 8 Golden Eagle Conservation Measures**

| Number | Conservation Measure | Source(s) |
|---|---|---|
| CM-1 | Speed limits will be posted at 35 miles per hour on haul roads and 45 miles per hour on assess roads. | BLM, 2017 |
| CM-2 | New hire and annual refresher training for all employees and contractors would include wildlife protection training that specifically addresses the commitment of McEwen to implement the faunal protection program. McEwen would work with NDOW in the development of training materials. | BLM, 2017 |
| CM-3 | Site-specific training would also include internal contact numbers for reporting sick or injured animals in the project area, as well as reporting procedures to the BLM and NDOW for any wildlife and wild horse mortalities. NDOW Industrial Artificial Pond Permit requirements would include reporting by the next business day any mortalities of wildlife species protected under the Migratory Bird Treaty Act, all game animals, game birds, sensitive, threatened or endangered species, and which are associated with chemical containing tanks or impoundments. | BLM, 2017 |
| CM-4 | Leach lines on the heap leach pad would be managed to preclude surface ponding on the heap surface that could attract avian or terrestrial resources to potentially toxic leach solutions. | BLM, 2017 |
| CM-5 | All artificial or man-made bodies of water that contain any chemical in solution at levels lethal to wildlife (e.g., barren and pregnant solution ponds) would be covered or contained in a manner that would prevent access by birds and bats. All covers or containers would be maintained in a manner that would continue to preclude access by wildlife for as long as the pond or container can hold water. Any chemical-laden fluids that are the result of any process and that are impounded in a pond that is too large to cover or contain (e.g., mill tailings ponds) would be rendered non-lethal to wildlife. The chemical concentration would be measured at a non-lethal level at the point where the fluid flows from a pipe into the pond or open conveyance system. Chemical neutralization and dilution are among methods that could be used to reduce chemical concentration. | BLM, 2017 |
| CM-6 | Annual raptor surveys would be conducted for the Plan boundary and a two-mile buffer. The surveys would be performed in accordance with the USFWS Interim Golden Eagle Technical Guidance: Inventory and Monitoring Protocols; and Other Recommendations in Support of Golden Eagle Management and Permit Issuance (Pagel et al., 2010). This guidance states that a project should be surveyed at least twice for nesting raptors during the breeding season and that surveys should be conducted at least 30 days apart. If nesting building activities or behavior or nesting raptors are identified, McEwen would coordinate with the BLM biologist on appropriate avoidance distances, as determined by the species identified. The avoidance areas would be in place until a qualified biologist has determined the young have fledged. | BLM, 2017 |

**Table 9 Other Avian Conservation Measures**

| Number | Conservation Measure | Source(s) |
|---|---|---|
| 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, 2017 |
| CM-8 | Flight diverters would be installed on any fencing within 3.1 miles of a lek using the Natural Resources Conservation Service Fence Collision Risk Tool, or other appropriate analysis to determine best locations for diverters. | BLM, 2017 |
| CM-9 | Generators would include enhanced generator silencing packages which includes high-ambient and sound-attenuated enclosures, use of noise absorbent materials, and an internal exhaust silencer system. | BLM, 2017 |
| CM-10 | Berms would be constructed along the haul roads in conformance with Mine Safety and Health Administration requirements that would also assist in the attenuation of noise along the haul roads. | BLM, 2017 |
| CM-11 | A blasting plan has been developed and included in the Plan to specifically limit blasting during atmospheric conditions (inversions) that could propagate blasting noise beyond the mine area. | BLM, 2017 |
| CM-12 | A Noxious Weed Plan has been developed and included in the Plan to prescribe methods to prevent and control the spread of noxious weeds during and following construction of the Gold Bar Mine Project. | BLM, 2017 |
| CM-13 | A reclamation/revegetation plan has been developed and included in the Plan for the project high elevation waste rock dumps to specifically address the unique challenges resulting from the edaphic, geologic, and physiographic conditions of the area. The revegetation plan is specifically focused on the development of greater sage-grouse habitat in areas that were either previously disturbed and unreclaimed or woodland dominated. | BLM, 2017 |
| CM-14 | New hire and annual refresher training for all employees and contractors would include greater sage-grouse specific protection training that specifically addresses the commitment of McEwen to implement the protection program and the need for all employees to avoid harassment and disturbance of greater sage-grouse, especially during the breeding season. McEwen would work with NDOW in the development of training materials. | BLM, 2017 |
| CM-15 | Any overhead power lines within four miles of active and pending active leks would be constructed with anti-perching devices, where applicable. Actions would be completed in consideration of the latest Avian Power Line Interaction Committee guidelines with assistance of BLM and NDOW for the appropriate predatory bird anti-perching devices. | BLM, 2017 |
| CM-16 | Travel timing restrictions would be implemented during lekking season (March 1 – May 15) on Three Bars Road and Roberts Creek Road, from 6:00 AM to 10:00 AM and from 6:00 PM to 4:30 AM. Emergency and local traffic would be exempt from these restrictions | BLM, 2017 |

| Number | Conservation Measure | Source(s) |
|---|---|---|
| CM-17 | Access road work, road maintenance-related work, gravel pit work conducted by McEwen within four miles of an active or pending lek are subject to timing restrictions during lekking season (March 1 – May 15) from 6:00 AM to 10:00 AM and from 6:00 PM to 4:30 AM. | BLM, 2017 |
| CM-18 | McEwen would conduct lek attendance monitoring, following NDOW monitoring protocols, for all leks within a two-mile distance of Three Bars and Roberts Creek access roads. Specific triggers would be developed with the BLM and NDOW tied to declining numbers that cannot be accounted for by normal variation and action items to further prevent impacts to greater sage-grouse populations. Leks found to be unoccupied after three successive years of monitoring would be proposed to the BLM and NDOW to be designated as inactive and monitoring of those leks would be suspended. If no adverse impact to active leks is demonstrated after five years of monitoring, McEwen would be able to request suspension of all lek monitoring. | BLM, 2017 |
| CM-19 | If surface disturbance is to occur during the raptor nesting season, burrowing owl (*Athene cunicularia*) preconstruction surveys would be conducted prior to ground-disturbing activities. If occupied burrows are encountered, an avoidance buffer would be placed around the burrow to avoid adverse impacts. McEwen would coordinate with the BLM to determine the appropriate avoidance buffer and the appropriate additional measures if removal of the burrow is necessary. | BLM, 2017 |

## 8.2 ADDITIONAL CONSERVATION MEASURES

In addition to the conservation measures presented above, McEwen has other measures that contribute to the conservation of eagles at the Gold Bar Mine. Some of these measures coincide with permit requirements and others have been implemented through recommendations by agencies. Although not specific to golden eagle protection, the implementation and continuation of the following plans will continue to benefit golden eagle conservation:

- Cyanide Management Plans;
- Noxious Weed Control Plans;
- Fire Control Plans;
- Solid and Hazardous Waste Management Plans; and
- Reclamation Plans.

McEwen will also adopt those conservation measures identified within the Nevada Mining Association's *Golden Eagle Protection Best Practices* (NVMA, 2018).

# 9.0 MITIGATION

The amount of mitigation required was determined by using the USFWS Golden Eagle Resource Equivalency Analysis (REA) (USFWS, 2018) (**Appendix C**) with the assumed productivity of 0.59 eagles per nest per year (USFWS, 2016c). Accordingly, the mitigation was calculated consistent with the REA using the following metrics and inputs.

**One Territory Subject to Disturbance Take for up to two Years**

- Disturbance of a single nesting territory.
- Disturbance for two years; and
- The first year of take is estimated to occur at year 2021.

With a compensatory mitigation ratio of 1.2:1, the following represents the number of poles to be retrofitted via in-lieu fee to offset the take of the territory. If McEwen elects to use an in-lieu fee program, the available options are to either retrofit for 10 or 30 years of avoided loss, each of which will have its own monetary value associated with it.

**One Territory Subject to Disturbance Take for up to two Years**

- 46.42 (10 years of avoided loss from retrofits), or
- 20.20 (30 years of avoided loss from retrofits).

With the goal of achieving a stable or increasing nesting population of golden eagles, the following mitigation measure will be implemented to compensate for the removal of nests and the possible loss of breeding territories in the project:

- McEwen will contribute to a USFWS-approved fund, or an equivalent in-lieu fee program, an amount equal to the power pole retrofit, or commit to undertake the retrofit itself, for
    - 47 poles (46.42 poles which was then rounded up) for retrofits sufficient to achieve 10 years of avoided loss, or
    - 21 poles (20.20 poles rounded up) for retrofits sufficient to achieve 30 years of avoided loss.

# 10.0 MONITORING

Golden eagle surveys have been conducted in the vicinity of the Plan boundary since 2017. Recent inventory and monitoring efforts follow Pagel et al. (2010), which is the standard golden eagle survey protocol accepted by the USFWS. Surveys focused on completing a thorough inventory of nests within a recommended 10-mile radius and capturing information regarding nest occupancy, productivity, and success. At least two aerial surveys were conducted annually during the golden eagle breeding season, with the surveys conducted at least one month apart.

McEwen will continue aerial and ground surveys of the eagle population within the 10-mile radius of the Plan boundary for the duration of mine operations. Monitoring objectives include:

- To track occupancy, productivity, and success of nests/territories within one mile of the proposed facilities around the Gold Bar South activities; and
- To further delineate and refine the understanding of eagle territories within the 10-mile radius.

As needed, golden eagle nests within proximity to active mining will be monitored to document nest occupancy. Reports associated with this monitoring will be prepared and provided as specified in the take permit conditions.

# 11.0 REPORTING SYSTEM

## 11.1 DETECTION

Eagle nests, injury, and mortality will be detected through incidental observations by McEwen personnel and contractors, as well as through inspections required by the NDOW Industrial Artificial Pond Permits. To improve the probability that injuries and mortalities do not go undetected, McEwen field staff will be advised to remain alert for eagles within active and inactive mining areas at all times. The detection of nest sites will occur through migratory bird nest clearance surveys, annual raptor nest monitoring (aerial and ground), and incidental observations.

## 11.2 REPORTING AND RESPONSE TO EAGLE NESTS

In the event that a nest is detected within proximity to mining activity, the McEwen Environmental Department or designee will record the circumstances and conditions associated with the observation by using the Avian Nest Form (**Appendix D**). Among the information recorded will be the date and time of the detection, the Global Positioning System location (North American Datum 83), the status of the nest, and if possible, the species. Mine personnel will also be educated on the procedures to be implemented after encountering nests.

In the event that the ground disturbance survey identifies a nest, the Nest Form will be completed by a biologist and submitted to the McEwen Environmental Department. If field personnel encounter a nest in a work area, they must leave the nest alone and communicate its location to the McEwen Environmental Department. Environmental personnel will complete the Nest Form and file it as outlined in the environmental file management system. The appropriate environmental personnel will take the appropriate action in accordance with this ECP to manage the nest.

If new nests are encountered within one mile of mining activity or two miles of surface blasting, either incidentally by mine staff/contractors or during annual surveys, McEwen will notify the USFWS within 72 hours. Coordination will then occur to determine if avoidance and/or mitigation are required, based on site specifics.

## 11.3 EAGLE INJURY AND MORTALITY REPORTING

When McEwen personnel encounter an eagle injury or mortality within the Amended Plan boundary, they must report the incident to the McEwen Environmental representative. Personnel must not handle dead or injured eagles unless specifically directed to do so by the USFWS. Personal protective equipment will be used before collecting or handling any eagles to avoid the potential for the spread of zoonotic diseases (e.g., rabies).

In the event of an eagle injury or mortality, McEwen's Environmental representative will follow the steps outlined below.

1. Fill out Avian/Bat Incident Form (**Appendix D**). The form will be used in McEwen's tracking database and correspondence to agencies in Steps 2 and 3 below.

2. In the event of an injury, verbally inform the USFWS and NDOW immediately and follow any directions from USFWS regarding how to handle the injury. Follow up with written correspondence. Contacts are:

   - USFWS Special Agent at (775) 861-6360
     1340 Financial Boulevard
     Reno, Nevada 89502

   - NDOW Regional Mining Biologist at (775) 777-2368
     60 Youth Center Road
     Elko, Nevada 89801

3. In the event of a mortality, verbally inform the USFWS and NDOW by the beginning of the next business day and implement Steps 3.1 through 3.5. Follow up with written correspondence as per Steps 3.1, 3.2, and 3.2.

   3.1 Report mortality using USFWS's online "Bird Fatality/Injury Report," (https://birdreport.fws.gov/). This is a database of voluntarily submitted incidents of bird mortalities and injuries.

   3.2 Report mortality to NDOW to comply with McEwen's Industrial Artificial Pond Permit via quarterly reporting form. Permit conditions require all process-related and non-process-related wildlife mortalities be reported to NDOW on a quarterly basis.

   3.3 Notify the BLM in writing.

   3.4 Assess the likely cause of the mortality. The assessment will include whether the incident is an electrocution. If so, remedial actions will be taken (below). Document the assessment in the Mine's tracking database.

   3.5 Update the ECP with any new remedial actions, as appropriate.

4. If the mortality resulted from electrocution, McEwen will implement remedial actions (Steps 4.1 to 4.2).

   4.1 Retrofit the pole causing the electrocution.

   4.2 Send a letter documenting the retrofit to the USFWS within 10 business days following the retrofit.

## 11.4 PERMITS FOR INJURED, DECEASED EAGLES

The USFWS issues permits to take, possess, or transport bald and golden eagles or their nests under the BGEPA. This ECP supports an application for a BGEPA take permit to disturb golden eagle territories. Aside from territory disturbance take, golden or bald eagle take is outside the scope of the agency's analysis and, in any event, it is unlikely, especially after implementation of the conservation measures described in this ECP. Therefore, a take permit under the BGEPA, aside from the requested eagle territory take permit, is not warranted at this time.

McEwen's personnel are strictly prohibited from handling, transporting, or disposing of golden or bald eagle carcasses without a permit issued under the BGEPA. As a result, in the event that an eagle mortality does occur, McEwen will contact the USFWS and NDOW immediately to report the incident and arrange for retrieval and receipt of the carcass. The BLM will also be notified of the mortality.

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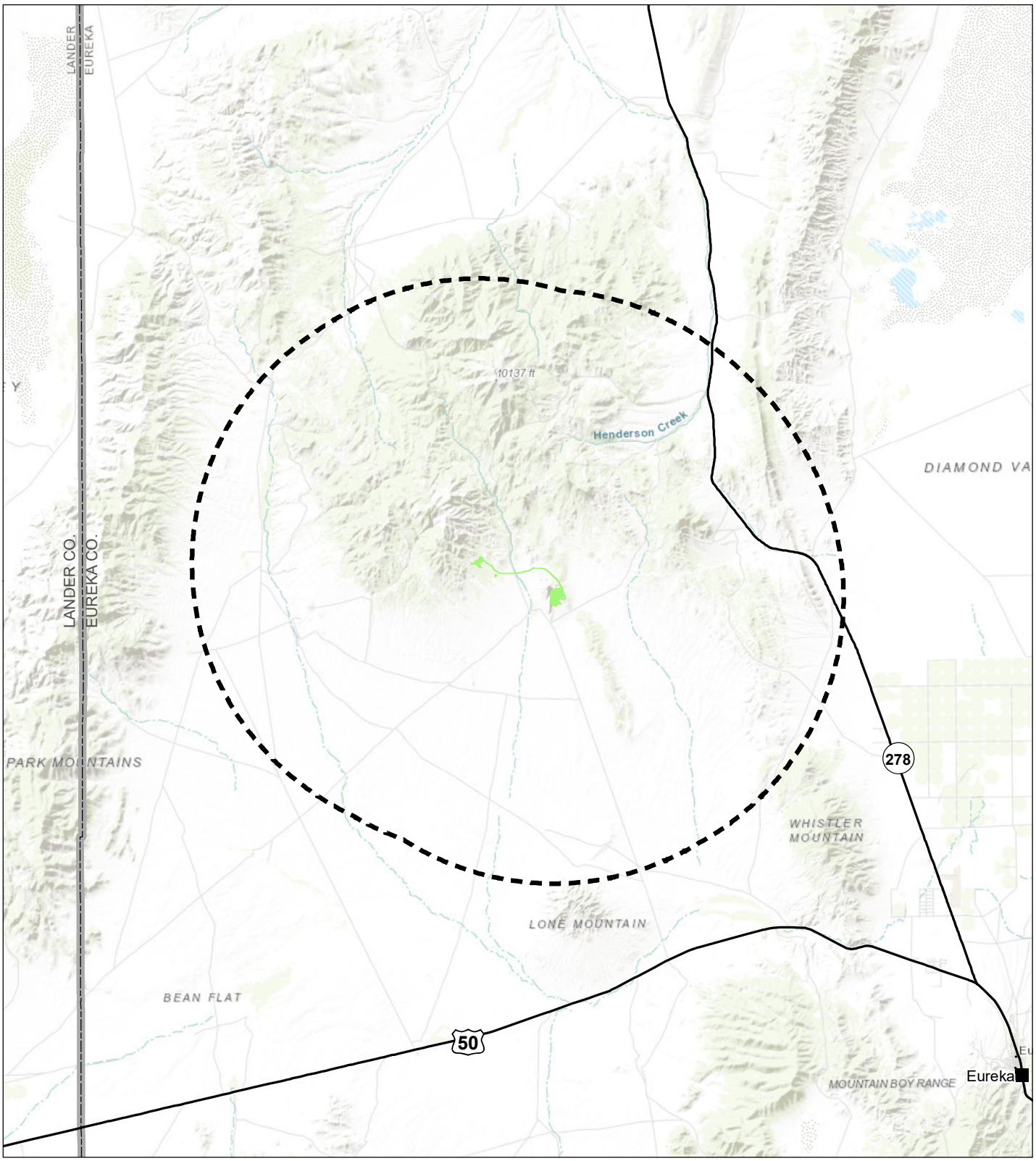
# FIGURES




Legend

- Proposed Disturbance
- 10-Mile Buffer of Proposed Disturbance

N

Miles

0 2.5 5

1 in = 5 miles

Stantec

McEwen Mining Inc.
Gold Bar South Project
Eagle Conservation Plan

Eureka County, NV
NAD 1983 UTM Zone 11N

| DRAWN BY: CJ | 1ST REVIEW: BT | 2ND REVIEW: LB |
|---|---|---|
| DATE: 9/9/2020 | PROJECT NO: 203721577 | |

**Figure 1**
**Project Location**

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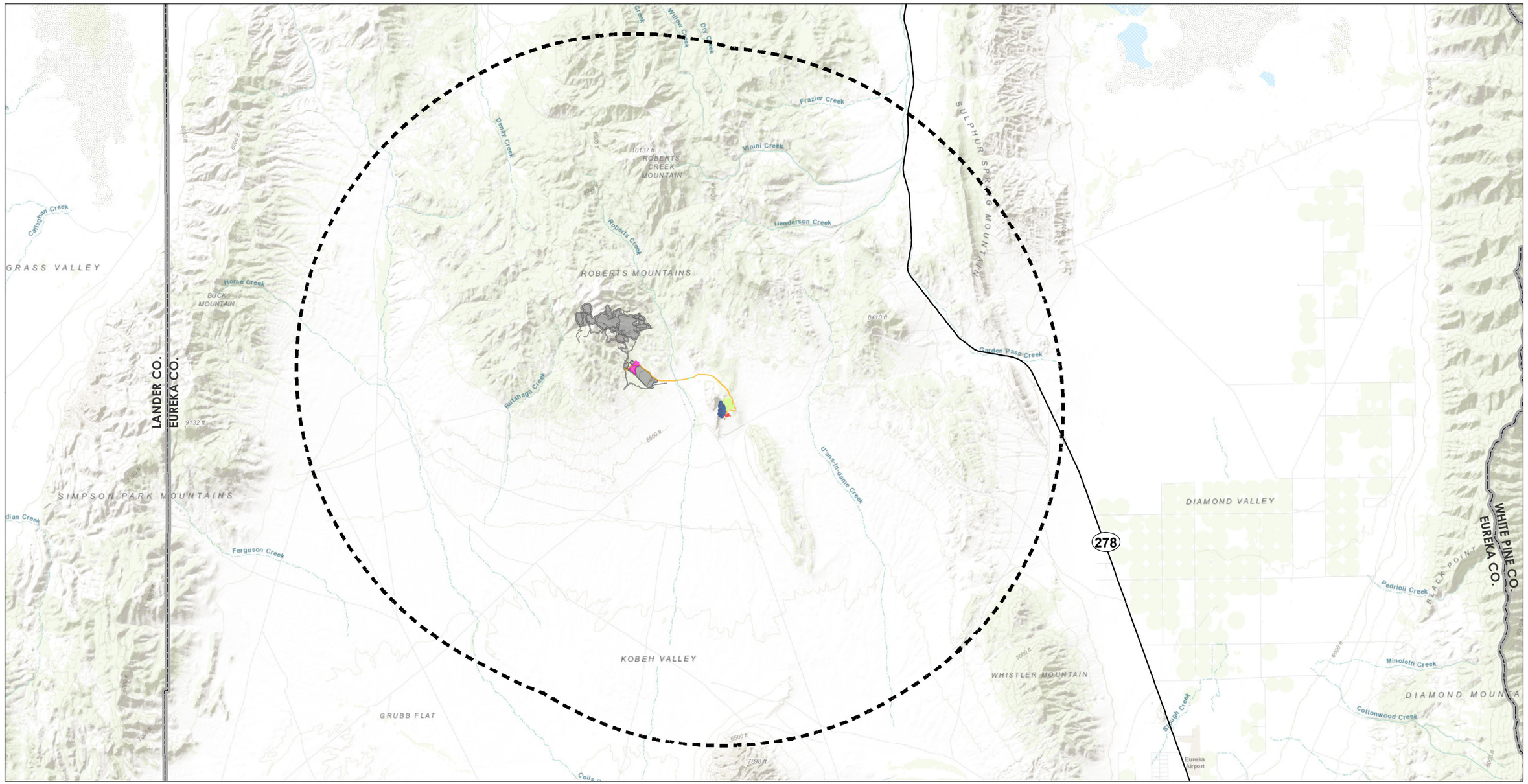
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community




Legend

- 10-Mile Buffer of Proposed Disturbance
- Authorized Disturbance

**Proposed Facilities**

- Heap Leach
- Pit
- Road
- Waste Rock Dump
- Pond
- Laydown Yard
- Sediment Basin
- Culvert

N

Stantec

0 1.5 3 Miles

1 in = 3 miles

McEwen Mining Inc.
Gold Bar South Project
Eagle Conservation Plan

Eureka County, NV
NAD 1983 UTM Zone 11N

| DRAWN BY: CJ | 1ST REVIEW: BT | 2ND REVIEW: LB |
|---|---|---|
| DATE: 9/11/2020 | PROJECT NO: 203721437 | |

**Figure 2**
**Existing and Proposed Facilities**



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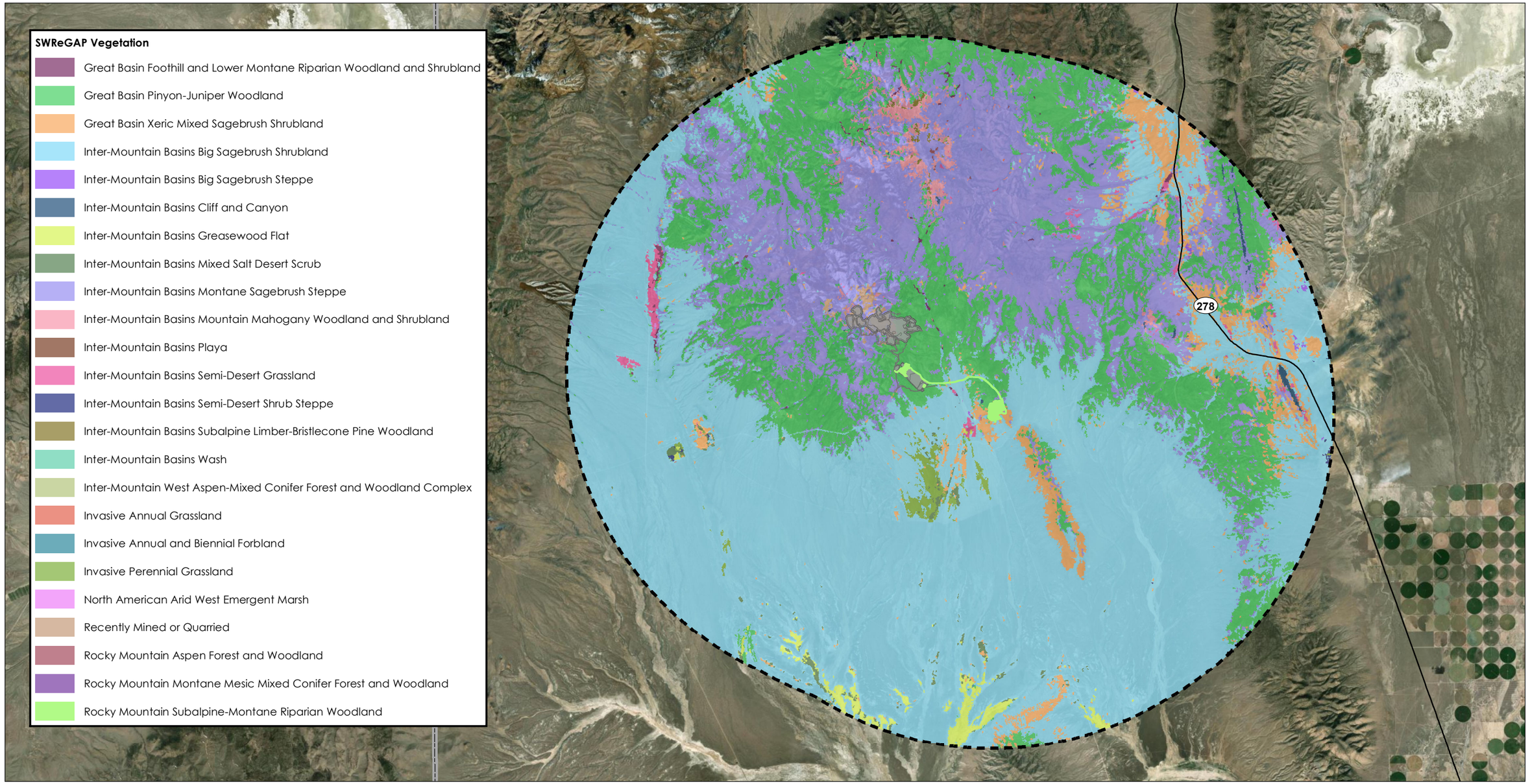



Legend

- Proposed Disturbance
- Authorized Disturbance
- 10-Mile Buffer of Proposed Disturbance

N

Stantec

Miles
0 1.5 3 1 in = 3 miles

McEwen Mining Inc.
Gold Bar South Project
Eagle Conservation Plan

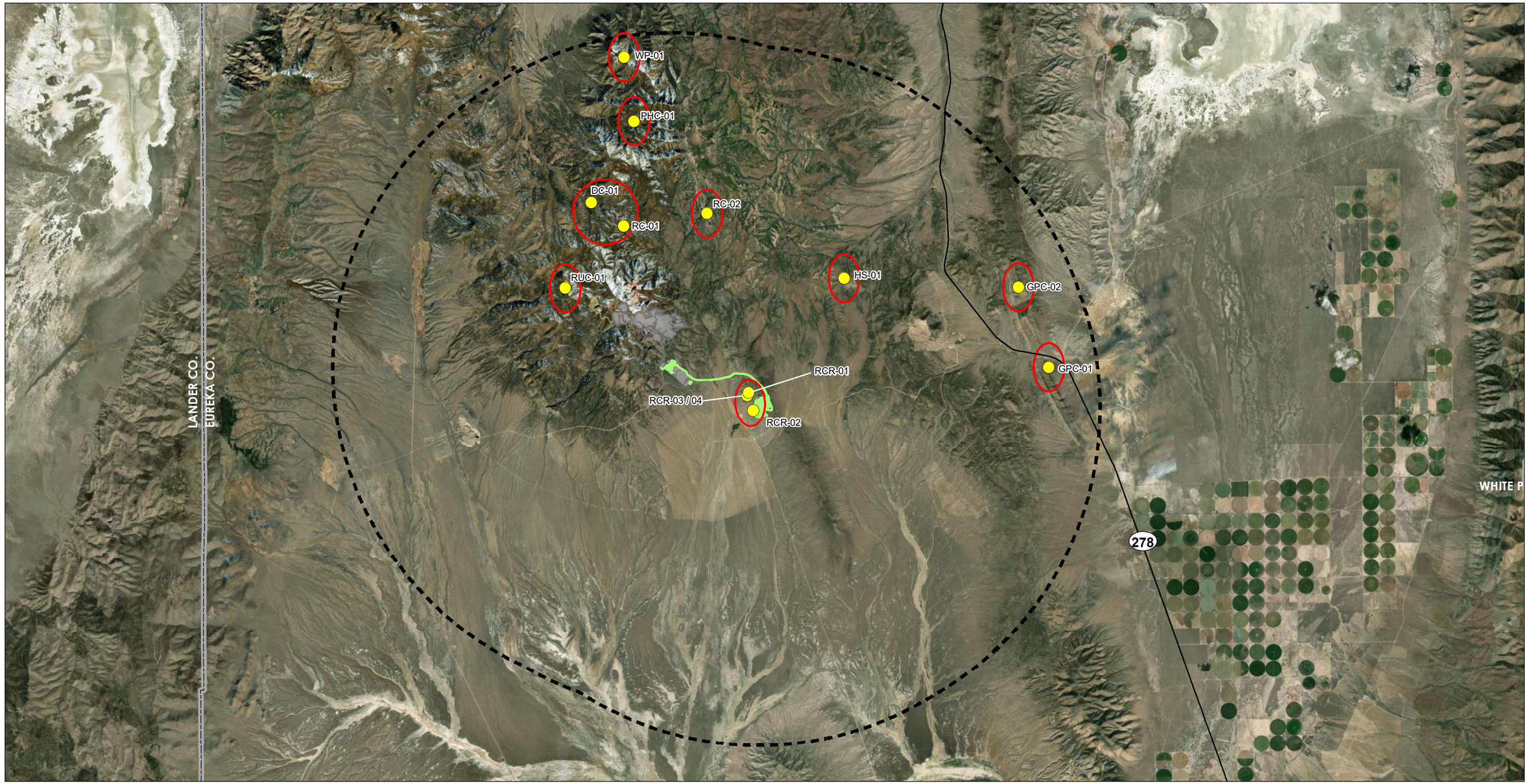
Eureka County, NV
NAD 1983 UTM Zone 11N

| DRAWN BY: CJ | 1ST REVIEW: BT | 2ND REVIEW: LB |
|---|---|---|
| DATE: 9/11/2020 | PROJECT NO: 203721420 | |

**Figure 3**
**Foraging Habitat**
**Within Study Area**

V:\2037\Active\203721437\03_data\gis_cad\gis\mxds\ECPV\Fig3_Foraging_Habitat_within_Study_Area.mxd Revised: 2020-09-11 By: chrjohnson

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community




Legend

- Proposed Disturbance
- Authorized Disturbance
- 10-Mile Buffer of Proposed Disturbance
- Golden Eagle Nest Territories
- Golden Eagle Nest

N

Stantec

0 1.5 3 Miles

1 in = 3 miles

Eureka County, NV
NAD 1983 UTM Zone 11N

| DRAWN BY: CJ | 1ST REVIEW: BT | 2ND REVIEW: LB |
|---|---|---|
| DATE: 9/11/2020 | PROJECT NO: 203721437 | |

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**Figure 4**
**Golden Eagle Nests and Territories Within Study Area**

V:\2037\Active\203721437\03_data\gis_cad\gis\mxds\ECP\Fig4_GE_Nest_Territories.mxd Revised: 2020-09-11 By: chrjohnson

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

RCR-01

RCR-03 / 04

RCR-02

Legend

- Proposed Disturbance
- Authorized Disturbance
- 1-Mile Buffer of Proposed Disturbance
- Golden Eagle Nest
- Golden Eagle Nest Territories

N

Stantec

Miles

0 0.25 0.5 1 in = 0.5 miles

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Eureka County, NV
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| DRAWN BY: CJ | 1ST REVIEW: BT | 2ND REVIEW: LB |
|---|---|---|
| DATE: 9/11/2020 | PROJECT NO: 203721437 | |

**Figure 5**
**Golden Eagle Nests and Territories Subject to Take**

V:\2037\Active\203721437\03_data\gis_cad\gis\mxds\ECPV\Fig5_GE_Nest_Territories_For_Take.mxd Revised: 2020-09-11 By: chrjohnson

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

RUC-01

RCR-01

RCR-03 / 04

RCR-02

Legend

- Proposed Disturbance
- Authorized Disturbance
- Proposed Pit
- Authorized Pits
- Golden Eagle Nest
- Areas Visible from RUC-01
- Areas Visible from RCR-01, RCR-02 & RCR-03/04
- Authorized and Proposed Facilities 1-mile buffer
- Pits 2-Mile Buffer

N

Stantec

Miles

0 0.5 1 1 in = 1 miles

Eureka County, NV
NAD 1983 UTM Zone 11N

| DRAWN BY: CJ | 1ST REVIEW: BT | 2ND REVIEW: LB |
|---|---|---|
| DATE: 9/23/2020 | PROJECT NO: 203721437 | |

McEwen Mining Inc.
Gold Bar South Project
Eagle Conservation Plan

**Figure 6**
**Nest Viewshed Results**

V:\2037\Active\203721437\03_data\gis_cad\gis\mxds\ECP\Fig6_GE_Nest_Viewshed_Results.mxd Revised: 2020-09-23 By: chrjohnson

Service layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

# APPENDIX A

# Gold Bar Golden Eagle Surveys

| Nest Name and Number | Location (UTMs) | | Survey Year | | | | | | | | Number of Seasons Nest was Occupied | Number of Seasons Territory was Occupied | Nest Occupancy Rate | Territory Occupancy Rate | Nest Average Brood Size (Fledged Young per Occupancy) | Territory Average Brood Size (Fledged Young per Occupancy) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Easting (meters) | Northing (meters) | 2017 | | 2018 | | 2019 | | 2020 | | | | | | | |
| | | | Nest Status | Territory Status | Nest Status | Territory Status | Nest Status | Territory Status | Nest Status | Territory Status | | | | | | |
| **Roberts Creek Reservoir Territory** | | | | | | | | | | | | | | | | |
| RCR-01 | [redacted] | [redacted] | Occupied (in-use): adult in incubation posture fresh material on nest during April flight one or two downy eaglets observed during May flight | Occupied | Unoccupied (alternate) | Occupied | Unoccupied (alternate) | Unoccupied | Unoccupied (alternate) | Unoccupied | 1 | 2 | 0.25 | 0.5 | 1 | 2 |
| RCR-02 | [redacted] | [redacted] | Unoccupied (alternate) | | Occupied (in-use): one adult and two nestlings with contour feathers on nest. | | Unoccupied (alternate) | | Unoccupied (alternate) | | 1 | | 0.25 | | 2 | |
| RCR-03/04 | [redacted] | [redacted] | - | | Unoccupied (alternate) | | Unoccupied (alternate) | | Unoccupied (alternate) | | 0 | | 0 | | 0 | |
| **Denay Creek Territory** | | | | | | | | | | | | | | | | |
| DC-01 | [redacted] | [redacted] | Occupied (in-use): adult in incubation or brood posture | Occupied | Unoccupied (alternate) | Unoccupied | Unoccupied (alternate) | Unoccupied | Unoccupied (alternate) | Unoccupied | 1 | 1 | 0.25 | 0.25 | 0 | 0 |
| RC-01 | [redacted] | [redacted] | Unoccupied (alternate) | | Unoccupied (alternate) | | Unoccupied (alternate) | | Unoccupied (alternate) | | 0 | | 0 | | 0 | |
| **Roberts Creek Territory** | | | | | | | | | | | | | | | | |
| RC-02 | [redacted] | [redacted] | Unoccupied (alternate) | Unoccupied | Unoccupied (alternate) | Unoccupied | Unoccupied (alternate) | Unoccupied | Unoccupied (alternate) | Unoccupied | 0 | 0 | 0 | 0 | 0 | 0 |
| **Pete Hanson Creek Territory** | | | | | | | | | | | | | | | | |
| PHC-01 | [redacted] | [redacted] | Unoccupied (alternate) | Unoccupied | Nest Not Found | Unoccupied | Nest Not Found (not surveyed due to wind) | Unoccupied | Unoccupied (alternate) | Unoccupied | 0 | 0 | 0 | 0 | 0 | 0 |
| **Rutabaga Creek Territory** | | | | | | | | | | | | | | | | |
| RUC-01 | [redacted] | [redacted] | Unoccupied (alternate) | Unoccupied | Unoccupied (alternate) | Unoccupied | Occupied (In-use) | Occupied | Unoccupied (alternate) | Unoccupied | 0 | 0 | 0 | 0 | 0 | 0 |
| **Western Peak Territory** | | | | | | | | | | | | | | | | |
| WP-01 | [redacted] | [redacted] | - | - | - | - | - | - | Unoccupied (alternate) | Unoccupied | 0 | 0 | 0 | 0 | 0 | 0 |

| Nest Name and Number | Location (UTMs) | | Survey Year | | | | | | | | Number of Seasons Nest was Occupied | Number of Seasons Territory was Occupied | Nest Occupancy Rate | Territory Occupancy Rate | Nest Average Brood Size (Fledged Young per Occupancy) | Territory Average Brood Size (Fledged Young per Occupancy) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Easting (meters) | Northing (meters) | 2017 | | 2018 | | 2019 | | 2020 | | | | | | | |
| | | | Nest Status | Territory Status | Nest Status | Territory Status | Nest Status | Territory Status | Nest Status | Territory Status | | | | | | |
| **Garden Pass Creek Territory** | | | | | | | | | | | | | | | | |
| GPC-01 | [redacted] | [redacted] | - | - | - | - | Unoccupied (alternate) | Unoccupied | Unoccupied (alternate) | Unoccupied | 0 | 0 | 0 | 0 | 0 | 0 |
| **Henderson Summit Territory** | | | | | | | | | | | | | | | | |
| HS-01 | [redacted] | [redacted] | - | - | - | - | Unoccupied (alternate) | Unoccupied | Unoccupied (alternate) | Unoccupied | 0 | 0 | 0 | 0 | 0 | 0 |
| **Garden Pass Creek Territory** | | | | | | | | | | | | | | | | |
| GPC-02 | [redacted] | [redacted] | - | - | - | - | - | - | Occupied (in-use) | Occupied | 1 | 1 | 1 | 1 | - | - |
| **Total Number Territories** (Sum of all territories) | | | **5** | | **5** | | **7** | | **9** | | | | | | | |
| **Total Number of Nests** (Sum of all nests) | | | **7** | | **8** | | **10** | | **12** | | | | | | | |
| **Total Number of Occupied (In Use) Territories** (Sum of all occupied territories) | | | **2** | | **1** | | **0** | | **1** | | | | | | | |
| **Territory Occupancy Rate** (Total number of occupied (in-use) territories divided by total number of territories) | | | **0.40** | | **0.20** | | **0** | | **0.11** | | | | | | | |
| **Total Number of Fledged Young** (Sum of young fledged from all territories) | | | **1** | | **2** | | **-** | | | | | | | | | |
| **Fledged Young per Occupied Territory** (Total number of young divided by total number of occupied territories) | | | **0.50** | | **2** | | **-** | | | | | | | | | |