RESOLUTION COPPER

Wildlife Management Plan

Revised October 2020

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APPENDICES

1. INTRODUCTION

Resolution Copper Mining, LLC (Resolution Copper), submitted a General Plan of Operations (Plan), dated November 2013, to the Tonto National Forest (TNF) for authorization to construct an underground mine, ore processing operation, and associated facilities and infrastructure near Superior, Pinal County, Arizona. These components are collectively identified as the Resolution Copper Project (Project). The proposed location for the Project is referred to as the General Project Area (GPA) as defined in the submitted Plan and the Environmental Impact Statement (EIS).

The main sites and associated primary project elements within the GPA include:

- East Plant Site (EPS) – Underground mine and attendant shafts and surface support facilities;
- West Plant Site (WPS) – Ore and development rock stockpiles, Concentrator (ore processing facilities), and administrative facilities;
- Tailings Storage Facility (TSF) – Tailings storage area and associated Utility Corridor (distribution pipeline, powerlines, and access roads);
- The Magma Arizona Railroad Company (MARRCO) Corridor (existing and future pipelines); and
- Filter Plant and Loadout Facility.

Resolution Copper would implement this Wildlife Management Plan to discourage wildlife from entering active mining areas at the EPS, WPS, TSF, MARRCO, and Filter Plant and Loadout Facility. Additionally, this plan would provide guidance to Resolution Copper personnel on the management of wildlife that may be attracted to the tailings decant pond, non-contact and contact water catchments, and process water ponds. Resolution Copper would employ the application of the least aggressive management practices to deter and prevent wildlife from gaining access to these areas.

The goal of this Wildlife Management Plan would be to reduce the potential for wildlife injury and mortality at active mining facilities. The plan would continue to evolve and will be periodically modified within an adaptive management framework aimed at improving the effectiveness of wildlife protection measures. The Wildlife Management Plan would continue to be developed and updated as the Project advances through permitting and construction.

The following sections provide a brief description of the facilities and areas with descriptions of wildlife protection measures (**Section 2**), the wildlife that may be present (**Section 3**), the types of wildlife protection measures and protocols that would be implemented by Resolution Copper for the Project (**Section 4**), and references cited (**Section 5**).

2. FACILITY DESCRIPTIONS

This section describes the Project components at the EPS, WPS, TSF, MARRCO Corridor, and Filter Plant and Loadout Facility that would require monitoring and implementation of protection measures to prevent wildlife from gaining access to these areas. Details on facility design and existing site conditions for the proposed facility locations (e.g. existing facilities, infrastructure, and environmental setting) are contained within the submitted Plan.

2.1. EAST PLANT SITE

The EPS is approximately 68 miles east of Phoenix and 2 miles east of Superior. The EPS encompasses the proposed underground mine, associated shafts and ore handling systems, and surface support facilities. The existing mine and related surface support facilities are on private lands, and during construction and mine operations, would largely expand onto private lands. The support facilities, some of which already exist, are in a previously disturbed area and include a mine site where Shaft 9 was constructed in the 1970s.

Facilities that would typically attract wildlife will be monitored at EPS. Specifically, three contact water basins (E1, E2, and E3) would be monitored. Contact Water Basins E1 and E2 would be constructed at the eastern edge of the EPS. The basins would be sited at low points in an existing drainage to capture most of the stormwater flows from the newly developed mine area. These basins would be emptied after each storm event, and contact water would be reused in the process water supply or the underground mine operations. Contact Water Basin E3 would contain flows from the existing and new mine facilities. This basin would be near an existing sump, which would be deepened and widened to catch all contact flow from these areas. This basin would be lined to prevent surface water infiltration and include regular cleaning and maintenance to remove vegetation.

2.2. WEST PLANT SITE

The WPS is approximately 65 miles east of Phoenix and 1 mile north of Superior primarily on Resolution Copper private property. The WPS encompasses facilities associated with past mining activity and facilities that are currently in operation either to support new development or for closure of legacy facilities. New features at WPS would include development rock stockpiles, new ore processing facilities (the Concentrator Complex), conveyor systems, and associated surface infrastructure (including administration buildings) to support the underground development and mining occurring at the EPS.

Facilities that would typically attract wildlife will be monitored at WPS. Specifically, a process water pond and contact water basins would be monitored. Process water for WPS use would be stored in the 50-million-gallon Process Water Pond. This pond would receive water from the Central Arizona Project (CAP) well field, filtrate from the Filter Plant, reclaim water from the TSF and contact water pumped from the local contact water ponds. Overflow water from the tailings, copper, and pyrite thickeners would drain or be pumped to the Tailings Thickener Overflow Tank for pumping back to the Process Water Pond where it would be recycled.

Contact water basins (W1, W2, W3, W4, and W5) would be built to act as storage facilities for contact stormwater from the WPS. These basins would provide stormwater management for the following facilities:

- Development Rock and Intermediate Rock stockpiles; and
- The Concentrator Complex, which includes the process water pond, ore stockpile facility, tailings thickeners, copper molybdenum and copper concentrator thickeners, and the molybdenum plant.

Non-Contact water basins (W6, W7, W8, and W9) would be built to act as storage facilities for stormwater that falls in the Ancillary Facilities catchment areas. Ancillary Facilities include the administration building, contractor and warehouse laydown yards, and construction and employee parking. No mining activity would occur within the Ancillary Facilities area.

2.3. TAILINGS STORAGE FACILITY

The TSF Preferred Alternative is the Skunk Camp TSF, which is approximately 2 miles east of ASARCO Ray Mine on the border of Pinal and Gila counties. Skunk Camp TSF would be located on private land and Arizona State Land Department (ASLD) property. The TSF would consist of the tailings storage area and associated Utility Corridor (distribution pipeline, powerline, and access roads). Tailings would arrive at the TSF from the WPS via a pipeline that traverses the intervening area (along with other infrastructure) along the Utility Corridor.

Facilities at the TSF that would be monitored for wildlife include the Utility Corridor and the tailings decant pond, seepage collection ponds, and stormwater catchment basins. The stormwater that falls directly on the TSF, or downstream of the diversion channels in early stages of tailings construction, would be contained within the TSF. Seepage from the facility would be collected and controlled using the following:

- High density thickened / thin lift tailings deposition technology;
- Low permeability liners in the pyrite cells;
- Finger drains under the main embankment;
- Lined seepage collection channels along main embankment;
- Shallow alluvial collection wells at the base of the embankment;
- A lined seepage collection pond with a pump-back system; and
- A grout curtain across the alluvial channel of the Dripping Springs Wash.

2.4. MARRCO CORRIDOR AND FILTER PLANT AND LOADOUT FACILITY

The Filter Plant and Loadout Facility would be constructed on private land between Florence Junction and Magma Junction adjacent to the existing MARRCO right-of-way. The Filter Plant and Loadout Facility would consist of a copper concentrate filtration plant and facility to load concentrate onto trains for shipment.

Contact water from the Filter Plant and Loadout Facility would be contained on site in contact water basins (F1 and F2) and recycled back into the process water circuit. Drainage from the Concentrate Filter Plant, Conveyor, Concentrate Loadout, Clarifier, Ancillary Facilities, and a parking area would flow to Contact Water Basin F1. The runoff from the Filter Plant Site, CAP Water Pump Station, and CAP Water Tank would flow to Contact Water Basin F2. The contact water basins (F1 and F2) would be monitored.

3. POTENTIALLY PRESENT WILDLIFE

Resolution Copper has completed surveys and baseline studies for wildlife and associated habitat in the vicinity of the Project since 2004. Effects to threatened and endangered species were analyzed in a June 2020 Biological Assessment (BA; USDA 2020) that the U.S. Forest Service (USFS) submitted to the U.S. Fish and Wildlife Service (USFWS). As a result, Resolution Copper has committed to a variety of measures to reduce potential impacts on wildlife, including those outlined the BA, as well as Section 4.7 of the EIS (Wildlife), and Appendix J of the EIS (Mitigation and Monitoring Plan; USDA 2019). This section describes the wildlife species that may occur within or in the vicinity of the GPA.

3.1. GAME SPECIES

Game species are those within the jurisdiction of the Arizona Game and Fish Department (AGFD). Game birds, such as doves and quail, are among those most frequently observed at the sites. Game mammals such as deer, javelina, coyote, and mountain lions, though rarely encountered, are known to occur in the vicinity and may pass through when hunting or seeking shelter or water. There are no current regulatory protections for game species, with the exception of game birds protected under the federal Migratory Bird Treaty Act (MBTA).

3.2. SPECIAL STATUS SPECIES

Special status species are those that are protected by law or regulation, as described in the following subsections. Special status species that could occur at the sites were researched via the USFWS Information, Planning, and Consultation (IPaC) online search tool and the AGFD's Heritage Data Management System (HDMS) database. The IPaC tool and HDMS database provide records of species that have been observed within certain distances of the Project (**Appendices A and B**).

Based on the IPaC and HDMS research for the Project, the table provided in **Appendix A** lists the special status species that could be present within or the vicinity of the Project, and the species status. It should be noted that species are added to and removed from the agencies' lists irregularly; the searches in **Appendices A and B** should be updated at least annually to ensure they are current. Resolution Copper site personnel are not expected to be able to identify each and every species listed in **Appendices A and B**, but they should understand the general extent of the list and be familiar enough with the characteristics of the species to be able to make a preliminary identification call or be able to describe the observed individual to agency personnel. The following online tools can be useful for species identification:

- Sonoran desert mammals: http://www.arizonensis.org/sonoran/fieldguide/vertibrata/mammals.html
- USFWS listed/proposed/candidate species: https://www.fws.gov/southwest/es/arizona/Docs_Species.htm
- Arizona reptiles and Amphibians: http://www.reptilesofaz.org/
- Game and non-game birds: https://merlin.allaboutbirds.org/

3.2.1. Endangered Species Act

The Endangered Species Act (ESA; 16 U.S.C. § 1531 et seq.) is administered by the USFWS, which identifies listed, proposed, or candidate threatened or endangered species, as well as species of concern, species covered by a candidate conservation agreement (CCA), and birds of conservation concern. Over 2,000 species are currently listed; as mentioned above, additions to and subtractions from the list are made irregularly and are published in the Federal Register. Additionally, the USFWS has reintroduced "experimental populations" of some species to certain areas and has designated or proposed "critical habitat" for some species. The ESA was originally enacted in 1973 with the purpose of protecting species and the ecosystems upon which they depend. An important provision of the ESA is prohibition of "take" of an endangered species unless a Section 10 Incidental Take Permit is issued. "Take" is defined as: "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct."

3.2.2. Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA; 16 U.S.C. § 668) is also administered by the USFWS to offer special protection for these two iconic species. The BGEPA was originally enacted in 1940 and prohibits unpermitted activities to "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or in any manner any bald eagle commonly known as the American eagle or any golden eagle, alive or dead, or any part, nest, or egg thereof of the foregoing eagles…" (16 U.S.C. § 668). Under the BGEPA, "take" includes "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb" (16 U.S.C. § 668c). Permits may be granted for eagle takes that are "associated with, but not the purpose of, the activity; and cannot practicably be avoided" (50 C.F.R. § 22.26). Bald and golden eagles are also listed as migratory birds by the USFWS.

3.2.3. Migratory Birds

The Migratory Bird Treaty Act (MBTA; 16 U.S.C. § 703-712) implements the United States' obligations under several international treaties and conventions. The MBTA makes it unlawful to "kill" or "take" a migratory bird, nest, or egg, except as permitted under regulations. The law does not distinguish between live or dead birds. The USFWS is responsible for maintaining the list of birds that fall under the protection of the MBTA. The MBTA species list currently identifies 1,026 migratory birds (USFWS 2013) and is also updated irregularly. Only non-native species occurring solely as a result of intentional or unintentional human introduction are exempted from MBTA protection. For practical purposes, virtually any bird that

could be encountered within the GPA should be considered a migratory species (in addition to any special status species noted above).

The MBTA definition of "take" is different than the definition of "take" under the ESA. The MBTA definition does not include a subset of "incidental take" as a prohibited activity. The USFWS rules under the MBTA define "take" to mean "pursue, hunt, shoot, wound, kill, trap, capture, or collect" (50 CFR § 10.12). This definition covers activities directed against wildlife, such as hunting or killing a migratory bird. For the purposes of this plan, it is assumed that inadvertent take or kill of migratory birds that could occur within the GPA would not be considered an "affirmative" (intentional) activity and therefore does not require a permit from the USFWS.

The MBTA prohibits the removal of all identified migratory bird species or their parts (feathers, eggs, nests, etc.) from private property. In certain extreme circumstances, a federal permit from the USFWS may be obtained to relocate a protected migratory bird species. However, relocating birds may result in undue harm to the birds, particularly because relocated birds often return to the same location during the following year's migration. Accordingly, relocation should be considered only as a last resort.

3.2.4. Federal Land Management Agency Sensitive Species

Federal land management agencies such as the USFS maintain lists of "sensitive species" that could be affected by operations at the sites that are on or near land administered by these agencies. Although these species do not have regulatory protection to the extent of those identified under the ESA, BGEPA, or MBTA, the land management agencies do consider effects to these species when evaluating projects on public land administered by these agencies.

3.2.5. Arizona State Species of Greatest Conservation Need

State-listed species also do not have a high level of regulatory protection but are considered when state agencies evaluate projects within their jurisdiction. All species identified in the Arizona State Wildlife Action Plan, administered by the AGFD, are considered species of greatest conservation need (SGCN).

4. PROTECTION MEASURES

The following conservation measures, i.e., applicant-committed environmental protection measures, will be implemented for wildlife and habitat:

4.1. WILDLIFE

4.1.1. Gila Chub

The following measures would be implemented from the BA:

- Develop site-specific wildlife mitigation plan in coordination with AGFD, USFWS, and USFS biologists to address construction-related actions to avoid, minimize, and mitigate impacts on special status species (e.g., timing of construction, species relocations, etc.).

- All ground disturbing activities associated with tailings pipeline and powerline work near Mineral Creek and Gila chub designated critical habitat will occur outside the ordinary high-water mark and designated critical habitat.
- In areas where Project facilities intersect Mineral Creek, trenchless/non-surface impact methods (i.e., horizontal drilling, micro-tunneling, etc.) will be used to avoid surface disturbance within the ordinary high-water mark and designated critical habitat.
- The contractor shall clearly delineate the perimeter of the construction footprint with flagging or other appropriate markers to restrict heavy equipment use and other surface-disturbing activities to areas within the construction footprint. The biological monitor will be present at all times during construction and will help ensure that construction activities and equipment remain within designated limits and outside the ordinary high-water mark and designated critical habitat.
- A Stormwater Pollution Prevention Plan (SWPPP) will be developed to reduce potential Project related increases in sedimentation to Mineral Creek.

4.1.2. Southwestern Flycatcher and Yellow-billed Cuckoo

The following measures would be implemented from the BA:

- In areas where surveys have detected the presence of the yellow-billed cuckoo, closure and reclamation activities within 500 feet of the ordinary high water mark of Mineral Creek will not be completed during the period of May 1 through September 30 to remain outside the breeding season for the species.
- Between May and September each year, a qualified biological monitor will be present in work areas that contain suitable habitat for the southwestern willow flycatcher and yellow-billed cuckoo along Mineral Creek during all surface-disturbing activities and will monitor for the presence of the species.
- Annual yellow-billed cuckoo surveys will be conducted in potentially suitable habitat of Devils Canyon and Mineral Creek immediately upstream and downstream of disturbance areas and crossings, starting 2 years prior to surface-disturbing activities and continue until pipeline construction has been completed, including reclamation of temporary construction disturbance.
- In areas where surveys show presence of yellow-billed cuckoo, to prevent direct effects on cuckoos (injuries or fatalities to adults, eggs, or young), vegetation clearing and ground disturbing activities associated with pipeline construction within 500 feet of the ordinary high water mark of Mineral Creek will be completed before May 1 or after September 30, outside the breeding season for the species.
- Large trees (greater than 12 inches in diameter), including Fremont cottonwood (*Populus fremontii*) and willow species (*Salix* spp.), as well as dense stands of vegetation, will be avoided when possible.

- Riparian trees that are removed will be cut to ground level but when possible, root masses will be left intact to help to stabilize soils and provide opportunities for regrowth through adventitious shoots (e.g., in the case of willows).
- The contractor shall clearly delineate the perimeter of the construction footprint with flagging or other appropriate markers to restrict heavy equipment use and other surface-disturbing activities to areas within the construction footprint. The biological monitor will be present at all times during construction and will help ensure that construction activities and equipment remain within designated limits and outside the ordinary high-water mark and proposed critical habitat.
- During mine operations, yellow-billed cuckoo surveys will be conducted every 5 years in potentially suitable habitat of Devils Canyon and Mineral Creek immediately upstream and downstream of relevant Project areas (crossings) to continue to monitor cuckoo presence in the area and prevent/minimize direct effects on cuckoos.
- In areas where surveys show presence of possible, probable, or confirmed breeding yellow-billed cuckoos, large-scale, major noise-producing activities within 500 feet of the ordinary high water mark of Mineral Creek will be avoided to the extent possible (e.g., maintenance activities associated with pipeline replacement and cleaning that may affect cuckoo habitat during the breeding season [May 1 to September 30 annually]).
- In order to minimize the potential risk for bird collisions with powerlines, the powerlines and structures would be designed in accordance with Reducing Avian Collision with Power Lines (Avian Power Line Interaction Committee (APLIC) 2012) and line marking devices, i.e., flight diverters, would be placed at the proposed crossings of Queen Creek, Devils Canyon, and Mineral Creek, especially in areas where suitable habitat for the yellow-billed cuckoo exists.

4.1.3. Golden Eagle

The following measures would be implemented from the EIS:

- Reduce impacts on Golden Eagles (CA-185):
    - Monitoring would be conducted for a 3-year monitoring period prior to construction to identify nesting, foraging, and wintering habitats and, if feasible, include one cycle of prey population fluctuations (Romin and Muck 2002).
    - Monitoring would include documenting nest productivity at active nest sites within 5 miles of Project boundaries pre/post construction to see if land conversion and habitat loss impact nest productivity.
    - The Project would utilize seasonal and/or spatial buffer zones for level and duration of construction activities during the golden eagle nesting period if there is an occupied nest site in the immediate vicinity of the project (see Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances (Romin and Muck 2002).

- If new nests are documented within the construction footprint, Resolution Copper would prevent additional encroachment of Project activity on nest sites (i.e. new roads, trails etc.); and work with AGFD for any additional protection measures.

4.1.4. Avian Species Including Migratory Birds

The following measures would be implemented:

- Monitoring for avian species would generally include observations during routine inspections at the EPS, WPS, TSF and Filter Plant and Loadout Facility for avian species. Inspections would occur at the tailings decant pond, non-contact and contact stormwater catchments, and process water ponds and would likely be conducted from a designated vehicle inspection route and/or pedestrian inspection walkway on a regular frequency. During these inspections, a trained staff member would use binoculars to scan the ponds and vicinity looking for birds or bird sign. Any observations of birds made during these inspections would be documented in a field log.
- If a bird is encountered, the trained staff member would employ the appropriate deterrence method in accordance with the bird deterrent visual and auditory measures as described below:
    - frequent vehicle and pedestrian inspections to make their presence known to birds to discourage avian use of the site.
    - Use of car horns and hand-held air horns to clear birds from the area.
- Resolution will coordinate and collaborate with AGFD before construction on updates/refinements to the bird deterrent measures.
- Resolution will conduct pre-construction surveys within suitable habitat for burrowing owl and collaborate with AGFD on the survey and survey results. If an active burrowing owl is detected, Resolution will contact AGFD and USFWS for direction in accordance with the burrowing owl project clearance guidelines for landowners.

The following measures would be implemented from the BA:

- Electric power transmission and distribution line towers (power poles) that serve the Resolution Copper Project facilities will be designed and constructed to avoid raptor electrocutions.
- Some additional hazing devices to deter and disperse wildlife from the potentially acid generating (PAG) tailings, non-contact and contact stormwater catchment basins, and process water ponds may also be considered and could include the following:
    - Plastic ball covers, vehicle lights and horns, motion-sensor lights, flags, perch deterrents, shell crackers, bird bangers, screamers, distress cries/electronic noise systems, bird scare balloons, propane cannons, and mylar scare tape.
    - A bird hazing protocol would be developed for Resolution Copper employees and would include a combination of harassment techniques. Additional hazing techniques may be adjusted or added as necessary based on field observations and ongoing research efforts.

The protocol would include an inspection schedule, acceptable harassment techniques, a field log procedure, and incident reporting procedures. Resolution Copper staff responsible for implementing the bird hazing program would be trained on the protocol prior to its initiation.

- Vegetation growth within the contact and non-contact stormwater catchment basins and process water ponds would be managed and periodically removed as often as necessary to further discourage the presence of wading birds.

The following measures would be implemented from the EIS:

- Avian and bat protection measures have been incorporated into this Wildlife Management Plan in coordination with AGFD (CA-187).
- Monitor Peregrine falcon productivity along Apache Leap during construction and operation of the mine (CA-186).

4.1.5. Bats

The following measure would be implemented:

- There are no current bat roosting areas within the Project footprint. If new roosting areas should be identified near project sites prior to initiating construction, Resolution would work with AGFD to develop best management practices (BMPs) .

The following measures would be implemented from the EIS:

- Mitigate impacts on bat habitat by conducting pre-closure surveys over multiple years and multiple visits per year, to document species presence/absence and develop appropriate closure methods in coordination with AGFD, Bat Conservation International, and USFS biologists; implement wildlife exclusion measures pre-closure to minimize wildlife entrapment and mortality during closure; consider seasonal timing of closure on any sites with suitable maternity roosts; and identify mines, adits, and/or shafts with known bat roosting areas. If activities are adjacent to bat roosting/maternity sites, develop best management practices to reduce human encroachment. This measure would be noted in the Record of Decision (ROD)/Final Mining Plan of Operations and required by the USFS via 36 CFR 228.8 (Forest Service Authority to regulate mining to minimize adverse environmental impacts on USFS resources) (CA-172).

4.1.6. Sonoran Desert Tortoise and Reptiles

The following measures would be implemented from the EIS:

- Implement conservation actions to address the conservation needs of Sonoran desert tortoise in suitable habitat. Resolution Copper would voluntarily commit to conservation actions that would help stabilize or restore the species with the goal that listing would become unnecessary. This

measure would be noted in the ROD/Final Mining Plan of Operations and would be required by the USFS (CA-191).

Additional measures would be implemented:

- Conduct pre-construction surveys for Sonoran desert tortoise (*Gopherus morafkai*) and Gila monster (*Heloderma suspectum*) before surface ground-disturbing activities start in areas containing suitable habitat for the species. The monitor would flag Sonoran desert tortoise and Gila monster shelter sites/burrows. These flagged areas would be inspected, and any Gila monsters and tortoises discovered would be relocated outside project activity areas. Additionally, a biological monitor would monitor for Sonoran desert tortoise and Gila monster during construction activities in areas of suitable habitat.
- Inform project crews of the potential to encounter Sonoran desert tortoise and Gila monster within the surface project area. Work crews would be instructed to check below equipment prior to moving, and to cover and/or backfill holes that could potentially entrap these species. If these species are observed, work crews would stop work until the biological monitor has relocated these species out of harm's way.
- Handling and relocation of Sonoran desert tortoise and Gila monsters will be done by a trained biological monitor with the proper permits.
- Establish tortoise crossings, as needed and applicable, for concentrate and tailings pipeline corridors in areas containing habitat where pipelines are not buried, and potentially use culverts and barriers for tortoise rail crossings along the MARRCO corridor.

4.1.7. Kit Fox

The following measures would be implemented:

- Prior to construction, a survey of suitable kit fox habitat within the project footprint (i.e. MARRCO Corridor and Filter Plant and Loadout Facility footprint) would be completed to identify the presence of kit fox dens. If kit fox dens are found within 50 feet of the construction footprint and are actively being used, but can be avoided, the following measure would be implemented:
    - Maintain a radius of at least 50 feet between construction and the den, with appropriate flagging and/or fencing to mark the den for avoidance. Any fencing will not impede kit fox entrance to the den.
    - If an active kit fox den cannot be avoided, Resolution Copper will work with AGFD to develop and implement BMPs to reduce impacts: To prevent inadvertent entrapment of kit foxes or other animals during the construction phase of a project, all excavated, steep-walled holes or trenches more than 2 feet deep should be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they

should be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the procedures later in this section must be followed.

- Kit foxes are attracted to den-like structures such as pipes and may enter stored pipe becoming trapped or injured. All construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored at a construction site for one or more overnight periods should be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe should not be moved until the AGFD has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved once to remove it from the path of construction activity, until the fox has escaped.
- In the case of trapped animals, escape ramps or structures should be installed immediately to allow the animal(s) to escape, or AGFD should be contacted for advice.
- The AGFD will be contacted if dead, injured, or trapped kit fox are found in the GPA.

4.1.8. Additional Wildlife Conservation Measures

The following measures would be implemented from the EIS:

- Resolution Copper will follow AGFD and USFWS guidance for mitigation of impacts on wildlife (GP-125):
  - Follow guidance from the AGFD and USFWS regarding avoidance, minimization, and mitigation measures for wildlife. The AGFD's HDMS and Project Evaluation Program work together to provide current, reliable, objective information on Arizona's plant and wildlife species to aid in the environmental decision-making process. The information can be used to guide preliminary decisions and assessments for the Resolution Copper Project. Similarly, the USFWS provides guidance for protecting wildlife.
- Implement a wildlife management plan for stormwater ponds, including wildlife exclusion fencing (GP-131).
- Use of BMPs during pipeline construction and operations (CA-176):
  - Resolution Copper would adhere to BMPs during pipeline construction and operation. During pipeline construction, Resolution Copper would cover open trenching; inspect trenches routinely for entrapped wildlife and remove; provide wildlife escape ramps; inspect under construction equipment prior to use and remove any wildlife seeking cover. Resolution Copper would also include wildlife crossing structures along the pipeline corridor (overpass or underpass) and coordinate with AGFD to determine the location, frequency, and design of wildlife crossing structures.

Additional measures would be implemented:

- Non-lethal deterrent techniques would be implemented using the least invasive techniques (preventative measures and vegetation management). Effectiveness would be observed for a

period of time by site staff during routine non-formal daily observations of the TSF, process water ponds, and contact and non-contact stormwater ponds and would ramp up to scare measures, floating covers or balls, and lastly the use of netting until wildlife use is diminished. Non-lethal deterrent techniques listed in the plan would be adjusted or discontinued based on the observations to maximize effectiveness.

- Some additional non-lethal deterrents and scare devices to deter and disperse wildlife from the tailings decant pond, non-contact and contact stormwater catchment basins and process water ponds may also be considered and could include: plastic ball covers, vehicle lights and horns, motion sensor lights, flags, perch deterrents, shell crackers, bird bangers, screamers, distress cries/electronic noise systems, bird scare balloons, propane cannons, and mylar scare tape. Additional deterrent techniques may be adjusted or added as necessary based on field observations and ongoing research efforts and new technology/methods. The protocol would include an inspection schedule, acceptable deterrent techniques, a field log procedure, and incident reporting procedures.
- The Project sites would be designed to reduce impacts to wildlife from lights (see Resolution Project Lighting Plan and Dark Skies study). Lighting locations would consider light pollution. Amber lighting, reduced illumination levels, automated controls to shut down lights when not necessary, and shielding would be implemented where feasible.
- Exclusion fencing, where possible due to topographic constraints, would be installed in accordance with AGFD Wildlife Compatible Fencing Guidelines (AGFD 2009) where applicable. The fence would act to prevent mammals and reptiles from entering the sites. Additional barriers that may be used include floating balls, strategically mounted artificial predatory birds and decoys, or cover and netting on the tailings impoundment and process water ponds. Tanks may be covered or fully contained.
- Open trenches or pits would be covered and/or backfilled where possible to prevent entrapment of wildlife. Trenches and pits that are not covered would include wildlife escape ramps and would be inspected routinely for removal of entrapped wildlife. Work crews would check below equipment prior to moving the equipment. If work crews encounter wildlife, the biological monitor would be contacted to relocate wildlife out of harm's way if practical.
- During operations, the tailings decant pond, non-contact and contact stormwater catchment basins, and process water ponds would be routinely inspected as part of an operational and preventative maintenance program. Additionally, maintenance and/or operations personnel would be present daily to ensure prompt repair of the site fencing and other preventative or deterrent/scare devices to discourage wildlife from the facility.

4.2. INCIDENTAL OBSERVATIONS

Incidental wildlife or livestock observations that occur during the normal course of operations at the site are also important. Any Resolution Copper personnel may observe and report wildlife or livestock encounters. Wildlife and livestock are most likely to occur in outlying areas, away from active mining or

processing locations, where shelter, forage, or water resources are available. Riparian areas with water and vegetation are attractive to wildlife. Cattle may be found wherever suitable browse vegetation (i.e., grass and palatable shrubs), water (such as accessible ponds, springs, streams), or easy transit corridors (i.e., roads) are situated within the property. Resolution Copper employees are not expected to record such incidental observations in logbooks but should identify the type of animal to the extent possible and report when conditions are either hazardous to the animal(s) or may impact human health and safety.

4.3. REPORTING

Resolution Copper would report to the necessary agencies if any sick, injured, or deceased wildlife are observed on site. If a bird injury or mortality is observed during inspections, Resolution Copper staff would report the incident to the Environmental Manager who would contact the AGFD Wildlife Center or an AGFD licensed wildlife rehabilitation expert in the case of an injury or USFWS Law Enforcement or AGFD authorities in the case of mortality (see **Tables 1 and 2**). The reporting procedure will be updated as needed.

Table 1. AGFD and USFWS Contact Information

Agency	Contact Phone
AGFD Region VI Office (Mesa)	480-981-9400
AGFD Radio Dispatch	623-236-7201
AGFD Wildlife Center	623-582-9806
USFWS Law Enforcement (Chandler)	480-967-7878

Table 2. AGFD Licensed Wildlife Rehabilitators Contact Information

Wildlife Rehabilitator	Location	Phone Number	Specialty
East Valley Wildlife	Chandler	480-814-9339	Birds
Sherri Sweet	Gilbert	480-988-5552	Mammals and Birds
Southwest Wildlife Rehabilitation & Education Foundation	Scottsdale	480-433-5656	Mammals
Wild at Heart	Cave Creek	480-595-5047	Bird of Prey
Liberty Wildlife Rehabilitation Foundation	Phoenix	480-988-5550	Birds, Small Mammals, Reptiles, Amphibians

Observed presence of potential hazard or nuisance wildlife should be reported internally within Resolution Copper. This may include, for example, presence of deer on-site or along roads posing traffic hazard, presence of javelina on-site causing potential risk and hazard to staff, presence of beehives or venomous reptile or insect species. If necessary, Resolution Copper would be responsible for developing and implementing additional specific measures to address these types of situations.

5. REFERENCES

Arizona Game and Fish Department. 2009. Wildlife Compatible Fencing. Phoenix, Arizona: Arizona Game and Fish Department.

Avian Power Line Interaction Committee (APLIC). 2012. Reducing Avian Collisions with Power Lines: the State of the Art in 2012. Washington, D.C.: Edison Electric Institute and Avian Power Line Interactions Committee. October 2012.

Romin, Laura A., and James A. Muck. 2002. Utah Field Office Guidelines for Raptor Protection From Human and Land Use Distrubances. Salt Lake City, Utah: U.S. Fish and Wildlife Service Utah Field Office. January 2002.

U.S. Department of Agriculture. 2019. DRAFT Environmental Impact Statement Resolution Copper Project and Land Exchange. Tonto National Forest. Phoenix, Arizona: U.S. Forest Service. August 1, 2019.

_____. 2020. Biological Assessment for the Proposed Resolution Copper Project near Superior in Pinal and Gila Counties, Arizona Consultation Codes: 02EAAZ00-2020-SLI-0104 and 02EAAZ00-2020-SLI-0553. *For Submittal to U.S. Fish and Wildlife Service*, Tonto National Forest U.S. Forest Service. Phoenix, Arizona: SWCA Environmental Consultants. June 2020.

U.S. Fish and Wildlife Service. 2013. List of Migratory Bird Species Protected by the Migratory Bird Treaty Act as of December 2, 2013. U.S. Fish and Wildlife Service. December 2, 2013.

APPENDIX A

U.S. Fish and Wildlife Service Information
for Planning and Consultation Report (IPaC) Online Query

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Arizona Ecological Services Field Office
9828 North 31st Ave
#c3
Phoenix, AZ 85051-2517
Phone: (602) 242-0210 Fax: (602) 242-2513
http://www.fws.gov/southwest/es/arizona/
http://www.fws.gov/southwest/es/EndangeredSpecies_Main.html

In Reply Refer To: July 30, 2020
Consultation Code: 02EAAZ00-2020-SLI-1244
Event Code: 02EAAZ00-2020-E-02740
Project Name: RC GPO

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The Fish and Wildlife Service (Service) is providing this list under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). The list you have generated identifies threatened, endangered, proposed, and candidate species, and designated and proposed critical habitat, that may occur within one or more delineated United States Geological Survey 7.5 minute quadrangles with which your project polygon intersects. Each quadrangle covers, at minimum, 49 square miles. In some cases, a species does not currently occur within a quadrangle but occurs nearby and could be affected by a project. Please refer to the species information links found at:
http://www.fws.gov/southwest/es/arizona/Docs_Species.htm
http://www.fws.gov/southwest/es/arizona/Documents/MiscDocs/AZSpeciesReference.pdf .

The purpose of the Act is to provide a means whereby threatened and endangered species and the habitats upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of Federal trust resources and to consult with us if their projects may affect federally listed species and/or designated critical habitat. A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, we recommend preparing a biological evaluation similar to a Biological Assessment to determine whether the project may

affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If the Federal action agency determines that listed species or critical habitat may be affected by a federally funded, permitted or authorized activity, the agency must consult with us pursuant to 50 CFR 402. Note that a "may affect" determination includes effects that may not be adverse and that may be beneficial, insignificant, or discountable. You should request consultation with us even if only one individual or habitat segment may be affected. The effects analysis should include the entire action area, which often extends well outside the project boundary or "footprint." For example, projects that involve streams and river systems should consider downstream effects. If the Federal action agency determines that the action may jeopardize a proposed species or adversely modify proposed critical habitat, the agency must enter into a section 7 conference. The agency may choose to confer with us on an action that may affect proposed species or critical habitat.
Candidate species are those for which there is sufficient information to support a proposal for listing. Although candidate species have no legal protection under the Act, we recommend considering them in the planning process in the event they become proposed or listed prior to project completion. More information on the regulations (50 CFR 402) and procedures for section 7 consultation, including the role of permit or license applicants, can be found in our Endangered Species Consultation Handbook at:
http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF.

We also advise you to consider species protected under the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-712) and the Bald and Golden Eagle Protection Act (Eagle Act) (16 U.S.C. 668 et seq.). The MBTA prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when authorized by the Service. The Eagle Act prohibits anyone, without a permit, from taking (including disturbing) eagles, and their parts, nests, or eggs. Currently 1026 species of birds are protected by the MBTA, including species such as the western burrowing owl (Athene cunicularia hypugea). Protected western burrowing owls are often found in urban areas and may use their nest/burrows year-round; destruction of the burrow may result in the unpermitted take of the owl or their eggs.

If a bald eagle (or golden eagle) nest occurs in or near the proposed project area, you should evaluate your project to determine whether it is likely to disturb or harm eagles. The National Bald Eagle Management Guidelines provide recommendations to minimize potential project impacts to bald eagles:
https://www.fws.gov/migratorybirds/pdf/management/
nationalbaldeaglenanagementguidelines.pdf
https://www.fws.gov/birds/management/managed-species/eagle-management.php.

The Division of Migratory Birds (505/248-7882) administers and issues permits under the MBTA and Eagle Act, while our office can provide guidance and Technical Assistance. For more information regarding the MBTA, BGEPA, and permitting processes, please visit the following: https://www.fws.gov/birds/policies-and-regulations/incidental-take.php. Guidance for minimizing impacts to migratory birds for communication tower projects (e.g. cellular, digital television, radio, and emergency broadcast) can be found at:

https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds/collisions/communication-towers.php.

Activities that involve streams (including intermittent streams) and/or wetlands are regulated by the U.S. Army Corps of Engineers (Corps). We recommend that you contact the Corps to determine their interest in proposed projects in these areas. For activities within a National Wildlife Refuge, we recommend that you contact refuge staff for specific information about refuge resources.
If your action is on tribal land or has implications for off-reservation tribal interests, we encourage you to contact the tribe(s) and the Bureau of Indian Affairs (BIA) to discuss potential tribal concerns, and to invite any affected tribe and the BIA to participate in the section 7 consultation. In keeping with our tribal trust responsibility, we will notify tribes that may be affected by proposed actions when section 7 consultation is initiated.

We also recommend you seek additional information and coordinate your project with the Arizona Game and Fish Department. Information on known species detections, special status species, and Arizona species of greatest conservation need, such as the western burrowing owl and the Sonoran desert tortoise (Gopherus morafkai) can be found by using their Online Environmental Review Tool, administered through the Heritage Data Management System and Project Evaluation Program https://www.azgfd.com/Wildlife/HeritageFund/.

For additional communications regarding this project, please refer to the consultation Tracking Number in the header of this letter. We appreciate your concern for threatened and endangered species. If we may be of further assistance, please contact our following offices for projects in these areas:

Northern Arizona: Flagstaff Office 928/556-2001
Central Arizona: Phoenix office 602/242-0210
Southern Arizona: Tucson Office 520/670-6144

Sincerely,
/s/ Jeff Humphrey Field Supervisor

Attachment

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Arizona Ecological Services Field Office
9828 North 31st Ave
#c3
Phoenix, AZ 85051-2517
(602) 242-0210

Project Summary

Consultation Code: 02EAAZ00-2020-SLI-1244

Event Code: 02EAAZ00-2020-E-02740

Project Name: RC GPO

Project Type: MINING

Project Description: RC Mining

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/33.18820036956322N110.89644840259703W

Counties: Gila, AZ | Pinal, AZ

Endangered Species Act Species

There is a total of 8 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Gray Wolf *Canis lupus* Population: Mexican gray wolf, EXPN population No critical habitat has been designated for this species.	Proposed Experimental Population, Non-Essential
Ocelot *Leopardus (=Felis) pardalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4474	Endangered

Birds

NAME	STATUS
Southwestern Willow Flycatcher *Empidonax traillii extimus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **proposed** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Reptiles

NAME	STATUS
Northern Mexican Gartersnake *Thamnophis eques megalops* There is **proposed** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7655	Threatened

Fishes

NAME	STATUS
Gila Chub *Gila intermedia* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/51	Endangered

Flowering Plants

NAME	STATUS
Acuna Cactus *Echinomastus erectocentrus var. acunensis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5785	Endangered
Arizona Hedgehog Cactus *Echinocereus triglochidiatus var. arizonicus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1702	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

APPENDIX B

Arizona Game and Fish Department
Heritage Data Management System (HDMS) Online Review

Arizona Environmental Online Review Tool Report

Arizona Game and Fish Department Mission
To conserve Arizona's diverse wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations.

Project Name:
RC GPO

Project Description:
RC Mining

Project Type:
Mining, Extraction Other minerals (copper, limestone, cinders, shale, salt), Other minerals (copper, limestone, cinders, shale, salt)

Contact Person:
Stacey McClure

Organization:
WestLand Resources

On Behalf Of:
OTHER

Project ID:
HGIS-11747

Please review the entire report for project type and/or species recommendations for the location information entered. Please retain a copy for future reference.

Disclaimer:

1. This Environmental Review is based on the project study area that was entered. The report must be updated if the project study area, location, or the type of project changes.
2. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area. This review is also not intended to replace environmental consultation (including federal consultation under the Endangered Species Act), land use permitting, or the Departments review of site-specific projects.
3. The Departments Heritage Data Management System (HDMS) data is not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there. HDMS data contains information about species occurrences that have actually been reported to the Department. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented population of species of special concern.
4. HabiMap Arizona data, specifically Species of Greatest Conservation Need (SGCN) under our State Wildlife Action Plan (SWAP) and Species of Economic and Recreational Importance (SERI), represent potential species distribution models for the State of Arizona which are subject to ongoing change, modification and refinement. The status of a wildlife resource can change quickly, and the availability of new data will necessitate a refined assessment.

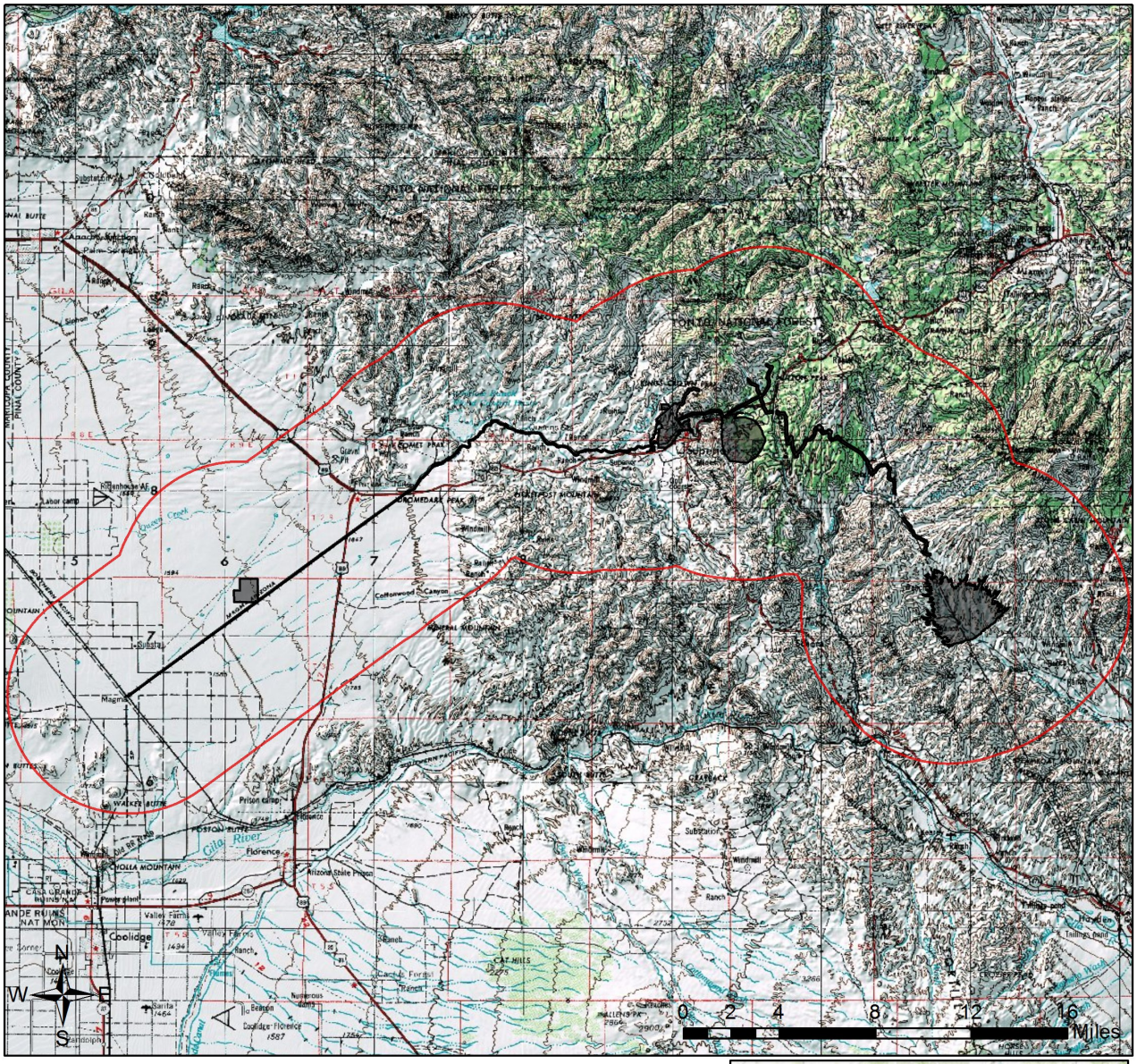
Locations Accuracy Disclaimer:
Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Report is solely responsible for the project location and thus the correctness of the Project Review Report content.

Recommendations Disclaimer:

1. The Department is interested in the conservation of all fish and wildlife resources, including those species listed in this report and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.
2. Recommendations have been made by the Department, under authority of Arizona Revised Statutes Title 5 (Amusements and Sports), 17 (Game and Fish), and 28 (Transportation).
3. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project. These recommendations are preliminary in scope, designed to provide early considerations on all species of wildlife.
4. Making this information directly available does not substitute for the Department's review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. Further coordination with the Department requires the submittal of this Environmental Review Report with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information (including site map). Once AGFD had received the information, please allow 30 days for completion of project reviews. Send requests to:
   Project Evaluation Program, Habitat Branch
   Arizona Game and Fish Department
   5000 West Carefree Highway
   Phoenix, Arizona 85086-5000
   Phone Number: (623) 236-7600
   Fax Number: (623) 236-7366
   Or
   PEP@azgfd.gov
6. Coordination may also be necessary under the National Environmental Policy Act (NEPA) and/or Endangered Species Act (ESA). Site specific recommendations may be proposed during further NEPA/ESA analysis or through coordination with affected agencies

RC GPO

USA Topo Basemap With Locator Map



Project Boundary

Buffered Project Boundary

Project Size (acres): 9,385.61

Lat/Long (DD): 33.2845 / -111.1516

County(s): Gila; Pinal

AGFD Region(s): Mesa

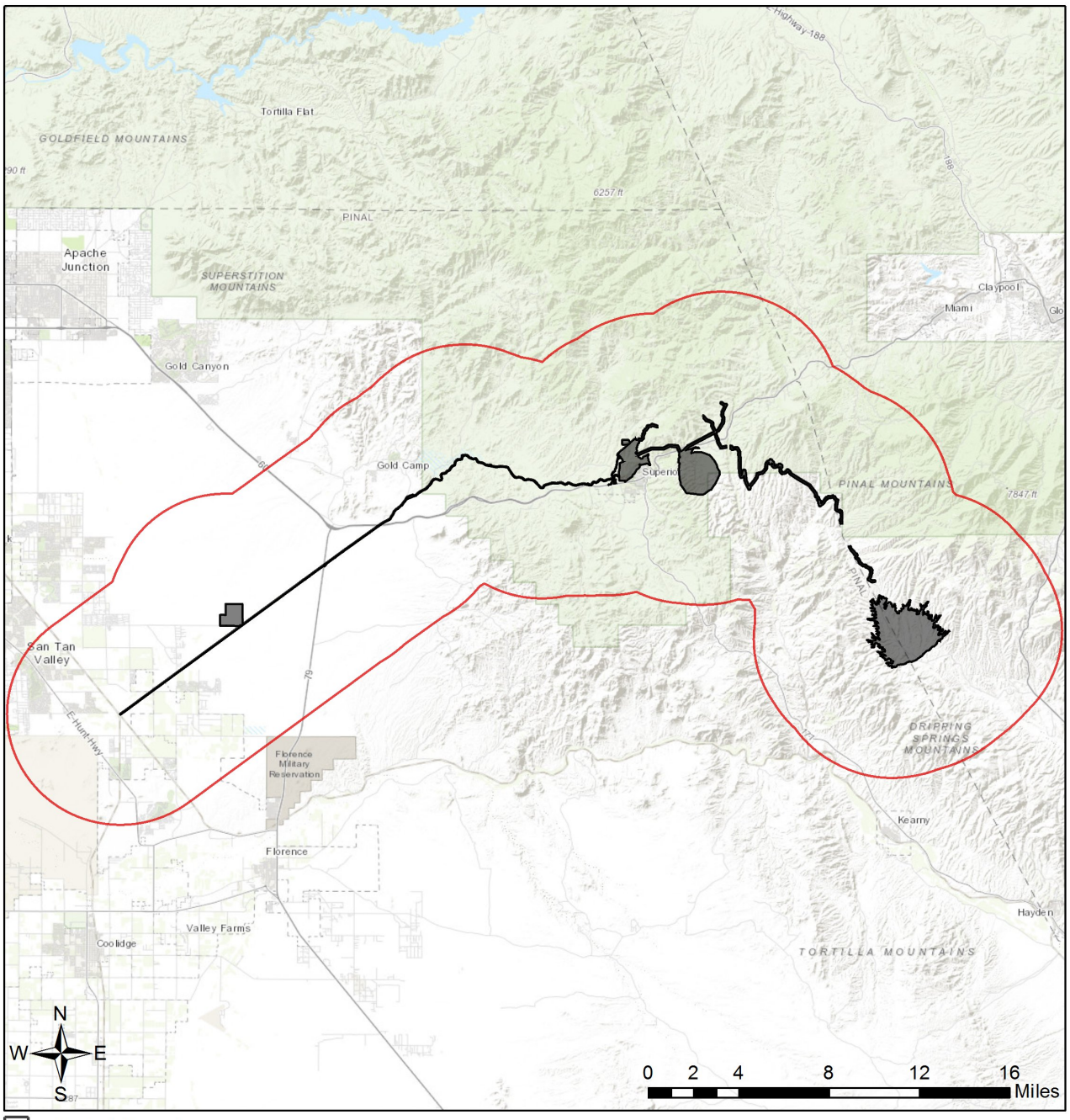
Township/Range(s): T1S, R11E; T1S, R12E; T1S, R13E +

USGS Quad(s): EL CAPITAN MOUNTAIN; FLORENCE JUNCTION +

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

RC GPO

Web Map As Submitted By User



Project Boundary

Buffered Project Boundary

Project Size (acres): 9,385.61

Lat/Long (DD): 33.2845 / -111.1516

County(s): Gila; Pinal

AGFD Region(s): Mesa

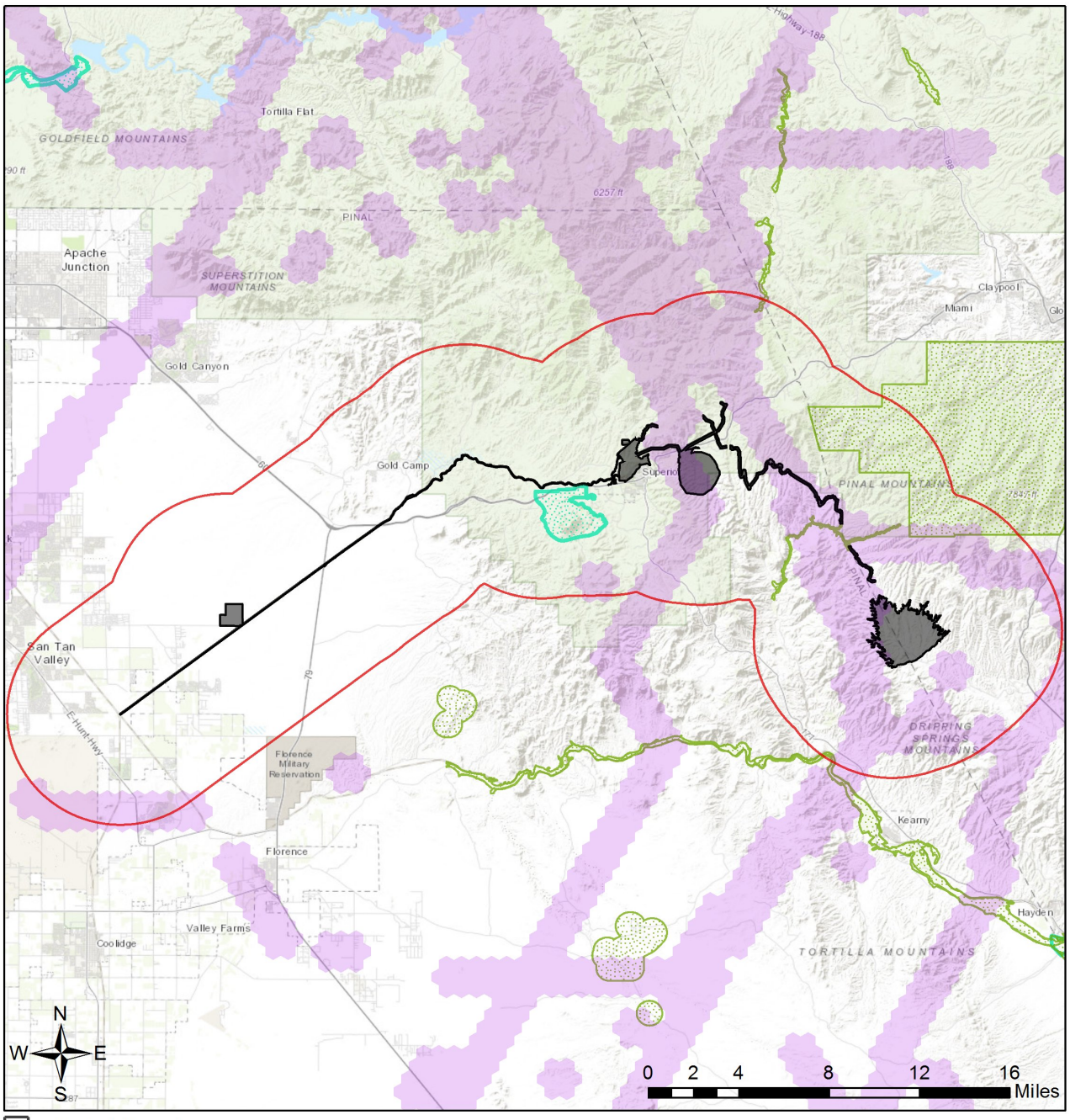
Township/Range(s): T1S, R11E; T1S, R12E; T1S, R13E +

USGS Quad(s): EL CAPITAN MOUNTAIN; FLORENCE JU

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

RC GPO

Important Areas



- Project Boundary
- Buffered Project Boundary
- Wildlife Connectivity
- Important Connectivity Zones
- Critical Habitat
- Important Bird Areas

Project Size (acres): 9,385.61

Lat/Long (DD): 33.2845 / -111.1516

County(s): Gila; Pinal

AGFD Region(s): Mesa

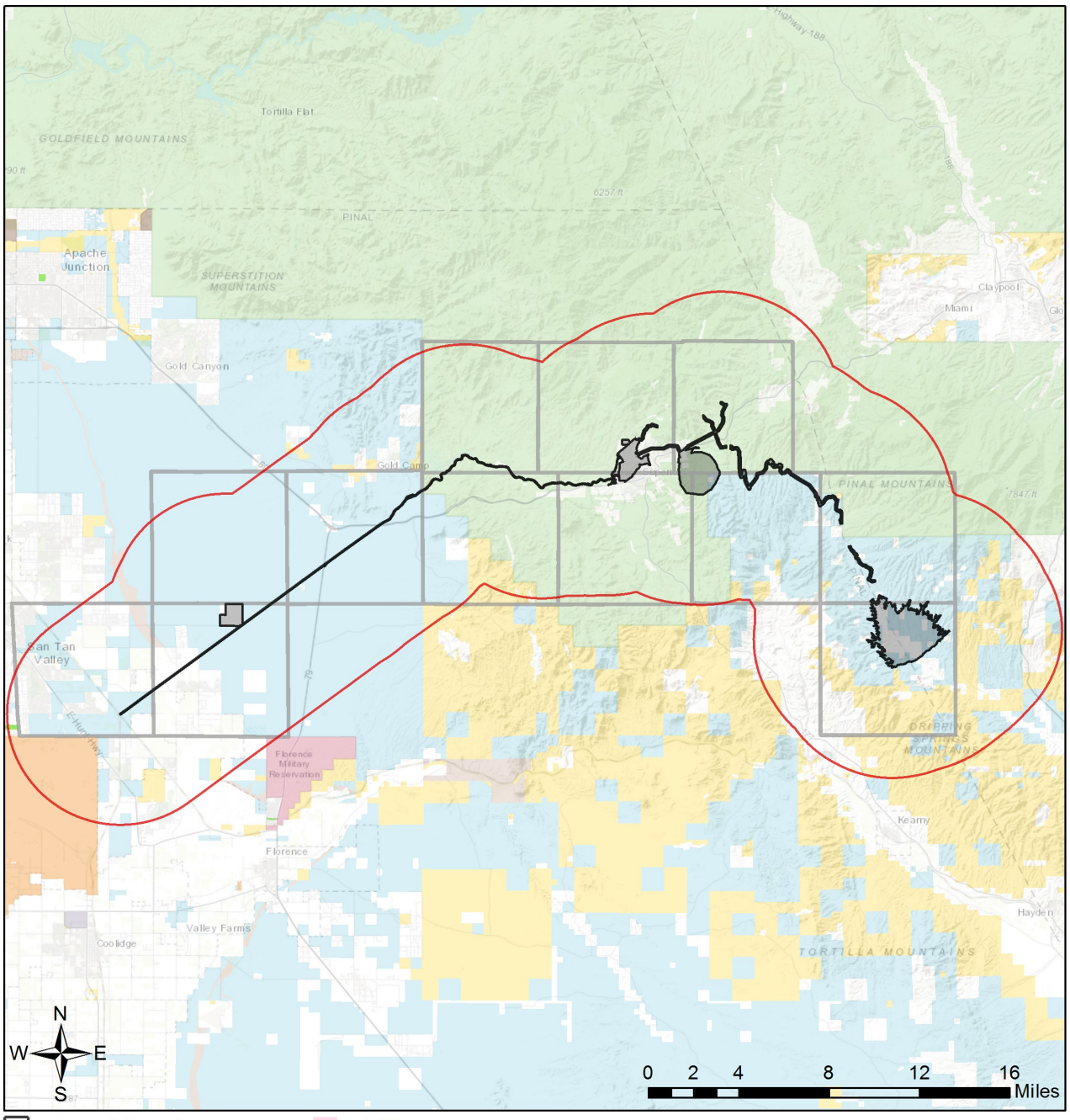
Township/Range(s): T1S, R11E; T1S, R12E; T1S, R13E +

USGS Quad(s): EL CAPITAN MOUNTAIN; FLORENCE JU

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

RC GPO

Township/Ranges and Land Ownership



- Project Boundary
- Buffered Project Boundary
- Township/Ranges

Land Ownership

- AZ Game & Fish Dept.
- BLM
- BOR
- Indian Res.
- Military
- Mixed/Other
- National Park/Mon.
- Private
- State & Regional Parks
- State Trust
- US Forest Service
- Wildlife Area/Refuge

Project Size (acres): 9,385.61

Lat/Long (DD): 33.2845 / -111.1516

County(s): Gila; Pinal

AGFD Region(s): Mesa

Township/Range(s): T1S, R11E; T1S, R12E; T1S, R13E +

USGS Quad(s): EL CAPITAN MOUNTAIN; FLORENCE JU

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

Special Status Species Documented within 5 Miles of Project Vicinity

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Abutilon parishii	Pima Indian Mallow	SC	S	S	SR	
Agosia chrysogaster chrysogaster	Gila Longfin Dace	SC		S		1B
Aquila chrysaetos	Golden Eagle	BGA		S		1B
Bat Colony						
Catostomus clarkii	Desert Sucker	SC	S	S		1B
Catostomus insignis	Sonora Sucker	SC	S	S		1B
Chionactis occipitalis klauberi	Tucson Shovel-nosed Snake	SC				1A
Coccyzus americanus	Yellow-billed Cuckoo (Western DPS)	LT	S			1A
Corynorhinus townsendii pallescens	Pale Townsend's Big-eared Bat	SC	S	S		1B
Danaus plexippus	Monarch			S		
Echinocereus santaritensis	Santa Rita Hedgehog Cactus				SR	
Echinocereus triglochidiatus var. arizonicus	Arizona Hedgehog Cactus	LE			HS	
Empidonax traillii extimus	Southwestern Willow Flycatcher	LE				1A
Eriogonum capillare	San Carlos Wild-buckwheat	SC			SR	
Eumops perotis californicus	Greater Western Bonneted Bat	SC		S		1B
Falco peregrinus anatum	American Peregrine Falcon	SC	S	S		1A
Gila intermedia	Gila Chub	LE				1A
Gopherus morafkai	Sonoran Desert Tortoise	CCA	S	S		1A
Heloderma suspectum cinctum	Banded Gila Monster	SC				1A
Heloderma suspectum suspectum	Reticulate Gila Monster					1A
Heloderma suspectum	Gila Monster					1A
Kinosternon sonoriense sonoriense	Desert Mud Turtle			S		1B
Lasiurus blossevillii	Western Red Bat		S			1B
Lasiurus xanthinus	Western Yellow Bat		S			1B
Leopardus pardalis	Ocelot	LE				1A
Lepus alleni	Antelope Jackrabbit					1B
Lithobates yavapaiensis	Lowland Leopard Frog	SC	S	S		1A
Mabrya acerifolia	Mapleleaf False Snapdragon		S			
Macrotus californicus	California Leaf-nosed Bat	SC		S		1B
Myotis ciliolabrum	Western Small-footed Myotis	SC				
Myotis thysanodes	Fringed Myotis	SC				
Myotis velifer	Cave Myotis	SC		S		1B
Myotis yumanensis	Yuma Myotis	SC				1B
Nyctinomops femorosaccus	Pocketed Free-tailed Bat					1B
Phyllorhynchus browni	Saddled Leaf-nosed Snake					1B
Poeciliopsis occidentalis occidentalis	Gila Topminnow	LE				1A
Strix occidentalis lucida	Mexican Spotted Owl	LT				1A
Tadarida brasiliensis	Brazilian Free-tailed Bat					1B

Special Status Species Documented within 5 Miles of Project Vicinity

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Xantusia bezyi	Bezy's Night Lizard		S			1B

Note: Status code definitions can be found at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/statusdefinitions/
.

Special Areas Documented within the Project Vicinity

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
CAP Canal	Maricopa County Wildlife Movement Area - Landscape					
Canyon Passes between Superior and Globe	Pinal County Wildlife Movement Area - Landscape					
Devil's Canyon	Pinal County Wildlife Movement Area - Diffuse					
El Capitan - Aravaipa Canyon	Pinal County Wildlife Movement Area - Landscape					
Florence Military Reservation	Pinal County Wildlife Movement Area - Landscape					
Important Connectivity Zone	Wildlife Connectivity					
PCH for Coccyzus americanus	Yellow-billed Cuckoo Proposed Critical Habitat					
Queen Creek - Gila River Indian Community	Maricopa County Wildlife Movement Area - Riparian/Wash					
Queen Creek - Gila River Indian Community	Pinal County Wildlife Movement Area - Riparian/Wash					
Queen Valley - Middle Gila/Mineral Mountains	Pinal County Wildlife Movement Area - Landscape					
Riparian Area	Riparian Area					
Tonto Forest West of Superior through Gonzales Pass	Pinal County Wildlife Movement Area - Landscape					
Valley north and east of the San Tan Mountains	Pinal County Wildlife Movement Area - Landscape					

Note: Status code definitions can be found at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/statusdefinitions/
.

Species of Greatest Conservation Need Predicted within the Project Vicinity based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Agosia chrysogaster	Longfin Dace	SC		S		1B
Aix sponsa	Wood Duck					1B
Ammodramus savannarum perpallidus	Western Grasshopper Sparrow					1B
Ammospermophilus harrisii	Harris' Antelope Squirrel					1B
Aquila chrysaetos	Golden Eagle	BGA		S		1B
Aspidoscelis flagellicauda	Gila Spotted Whiptail					1B

Species of Greatest Conservation Need Predicted within the Project Vicinity based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Aspidoscelis stictogramma	Giant Spotted Whiptail	SC	S			1B
Aspidoscelis xanthonota	Red-backed Whiptail	SC	S			1B
Athene cunicularia hypugaea	Western Burrowing Owl	SC	S	S		1B
Baeolophus ridgwayi	Juniper Titmouse					1C
Botaurus lentiginosus	American Bittern					1B
Buteo regalis	Ferruginous Hawk	SC		S		1B
Buteo swainsoni	Swainson's Hawk					1C
Buteogallus anthracinus	Common Black Hawk					1C
Calypte costae	Costa's Hummingbird					1C
Catostomus clarkii	Desert Sucker	SC	S	S		1B
Catostomus insignis	Sonora Sucker	SC	S	S		1B
Chilomeniscus stramineus	Variable Sandsnake					1B
Chionactis occipitalis klauberi	Tucson Shovel-nosed Snake	SC				1A
Chordeiles minor	Common Nighthawk					1B
Coccothraustes vespertinus	Evening Grosbeak					1B
Coccyzus americanus	Yellow-billed Cuckoo (Western DPS)	LT	S			1A
Colaptes chrysoides	Gilded Flicker			S		1B
Coluber bilineatus	Sonoran Whipsnake					1B
Corynorhinus townsendii pallescens	Pale Townsend's Big-eared Bat	SC	S	S		1B
Crotalus cerberus	Arizona Black Rattlesnake					1B
Crotalus tigris	Tiger Rattlesnake					1B
Cynanthus latirostris	Broad-billed Hummingbird		S			1B
Cyprinodon macularius	Desert Pupfish	LE				1A
Dipodomys spectabilis	Banner-tailed Kangaroo Rat			S		1B
Empidonax traillii extimus	Southwestern Willow Flycatcher	LE				1A
Empidonax wrightii	Gray Flycatcher					1C
Euderma maculatum	Spotted Bat	SC	S	S		1B
Eugenes fulgens	Rivoli's Hummingbird					1B
Eumops perotis californicus	Greater Western Bonneted Bat	SC		S		1B
Falco peregrinus anatum	American Peregrine Falcon	SC	S	S		1A
Gila intermedia	Gila Chub	LE				1A
Gila robusta	Roundtail Chub	SC	S	S		1A
Gopherus morafkai	Sonoran Desert Tortoise	CCA	S	S		1A
Haliaeetus leucocephalus	Bald Eagle	SC, BGA	S	S		1A
Heloderma suspectum	Gila Monster					1A
Ictinia mississippiensis	Mississippi Kite					1B
Incilius alvarius	Sonoran Desert Toad					1B
Kinosternon sonoriense sonoriense	Desert Mud Turtle			S		1B
Lasiurus blossevillii	Western Red Bat		S			1B

Species of Greatest Conservation Need Predicted within the Project Vicinity based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Lasiurus xanthinus	Western Yellow Bat		S			1B
Leopardus pardalis	Ocelot	LE				1A
Leptonycteris yerbabuenae	Lesser Long-nosed Bat	SC				1A
Lepus alleni	Antelope Jackrabbit					1B
Lithobates yavapaiensis	Lowland Leopard Frog	SC	S	S		1A
Macrotus californicus	California Leaf-nosed Bat	SC		S		1B
Melanerpes uropygialis	Gila Woodpecker					1B
Melospiza lincolnii	Lincoln's Sparrow					1B
Melozone aberti	Abert's Towhee		S			1B
Micrathene whitneyi	Elf Owl					1C
Micruroides euryxanthus	Sonoran Coralsnake					1B
Myiarchus tuberculifer	Dusky-capped Flycatcher					1B
Myiarchus tyrannulus	Brown-crested Flycatcher					1C
Myiodynastes luteiventris	Sulphur-bellied Flycatcher		S			1B
Myotis occultus	Arizona Myotis	SC		S		1B
Myotis velifer	Cave Myotis	SC		S		1B
Myotis yumanensis	Yuma Myotis	SC				1B
Nyctinomops femorosaccus	Pocketed Free-tailed Bat					1B
Odocoileus virginianus	White-tailed Deer					1B
Oreoscoptes montanus	Sage Thrasher					1C
Oreothlypis luciae	Lucy's Warbler					1C
Ovis canadensis mexicana	Mexican Desert Bighorn Sheep					1B
Panthera onca	Jaguar	LE				1A
Passerculus sandwichensis	Savannah Sparrow					1B
Phrynosoma solare	Regal Horned Lizard					1B
Phyllorhynchus browni	Saddled Leaf-nosed Snake					1B
Poeciliopsis occidentalis occidentalis	Gila Topminnow	LE				1A
Progne subis hesperia	Desert Purple Martin			S		1B
Setophaga petechia	Yellow Warbler					1B
Sphyrapicus nuchalis	Red-naped Sapsucker					1C
Sphyrapicus thyroideus	Williamson's Sapsucker					1C
Spizella atrogularis	Black-chinned Sparrow					1C
Spizella breweri	Brewer's Sparrow					1C
Strix occidentalis lucida	Mexican Spotted Owl	LT				1A
Sturnella magna	Eastern Meadowlark					1C
Tadarida brasiliensis	Brazilian Free-tailed Bat					1B
Terrapene ornata	Ornate Box Turtle					1A
Toxostoma lecontei	LeConte's Thrasher			S		1B
Troglodytes pacificus	Pacific Wren					1B

Species of Greatest Conservation Need Predicted within the Project Vicinity based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Tyrannus crassirostris	Thick-billed Kingbird		S			1B
Vireo bellii arizonae	Arizona Bell's Vireo					1B
Vireo vicinior	Gray Vireo		S			1C
Vulpes macrotis	Kit Fox	No Status				1B
Xantusia bezyi	Bezy's Night Lizard		S			1B

Species of Economic and Recreation Importance Predicted within the Project Vicinity

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Callipepla gambelii	Gambel's Quail					
Odocoileus hemionus	Mule Deer					
Odocoileus virginianus	White-tailed Deer					1B
Patagioenas fasciata	Band-tailed Pigeon					1C
Pecari tajacu	Javelina					
Puma concolor	Mountain Lion					
Ursus americanus	American Black Bear					
Zenaida asiatica	White-winged Dove					
Zenaida macroura	Mourning Dove					

Project Type: Mining, Extraction Other minerals (copper, limestone, cinders, shale, salt), Other minerals (copper, limestone, cinders, shale, salt)

Project Type Recommendations:
Fence recommendations will be dependant upon the goals of the fence project and the wildlife species expected to be impacted by the project. General guidelines for ensuring wildlife-friendly fences include: barbless wire on the top and bottom with the maximum fence height 42", minimum height for bottom 16". Modifications to this design may be considered for fencing anticipated to be routinely encountered by elk, bighorn sheep or pronghorn (e.g., Pronghorn fencing would require 18" minimum height on the bottom). Please refer to the Department's Fencing Guidelines located on Wildlife Friendly Guidelines page, which is part of the WIldlife Planning button at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/.

During the planning stages of your project, please consider the local or regional needs of wildlife in regards to movement, connectivity, and access to habitat needs. Loss of this permeability prevents wildlife from accessing resources, finding mates, reduces gene flow, prevents wildlife from re-colonizing areas where local extirpations may have occurred, and ultimately prevents wildlife from contributing to ecosystem functions, such as pollination, seed dispersal, control of prey numbers, and resistance to invasive species. In many cases, streams and washes provide natural movement corridors for wildlife and should be maintained in their natural state. Uplands also support a large diversity of species, and should be contained within important wildlife movement corridors. In addition, maintaining biodiversity and ecosystem functions can be facilitated through improving designs of structures, fences, roadways, and culverts to promote passage for a variety of wildlife. Guidelines for many of these can be found at: https://www.azgfd.com/wildlife/planning/wildlifeguidelines/.

Consider impacts of outdoor lighting on wildlife and develop measures or alternatives that can be taken to increase human safety while minimizing potential impacts to wildlife. Conduct wildlife surveys to determine species within project area, and evaluate proposed activities based on species biology and natural history to determine if artificial lighting may disrupt behavior patterns or habitat use. Use only the minimum amount of light needed for safety. Narrow spectrum bulbs should be used as often as possible to lower the range of species affected by lighting. All lighting should be shielded, canted, or cut to ensure that light reaches only areas needing illumination.

Minimize potential introduction or spread of exotic invasive species. Invasive species can be plants, animals (exotic snails), and other organisms (e.g., microbes), which may cause alteration to ecological functions or compete with or prey upon native species and can cause social impacts (e.g., livestock forage reduction, increase wildfire risk). The terms noxious weed or invasive plants are often used interchangeably. Precautions should be taken to wash all equipment utilized in the project activities before leaving the site. Arizona has noxious weed regulations (Arizona Revised Statutes, Rules R3-4-244 and R3-4-245). See Arizona Department of Agriculture website for restricted plants, https://agriculture.az.gov/. Additionally, the U.S. Department of Agriculture has information regarding pest and invasive plant control methods including: pesticide, herbicide, biological control agents, and mechanical control, https://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/water/quality/?cid=stelprdb1044769 The Department regulates the importation, purchasing, and transportation of wildlife and fish (Restricted Live Wildlife), please refer to the hunting regulations for further information https://www.azgfd.com/hunting/regulations.

Minimization and mitigation of impacts to wildlife and fish species due to changes in water quality, quantity, chemistry, temperature, and alteration to flow regimes (timing, magnitude, duration, and frequency of floods) should be evaluated. Minimize impacts to springs, in-stream flow, and consider irrigation improvements to decrease water use. If dredging is a project component, consider timing of the project in order to minimize impacts to spawning fish and other aquatic species (include spawning seasons), and to reduce spread of exotic invasive species. We recommend early direct coordination with Project Evaluation Program for projects that could impact water resources, wetlands, streams, springs, and/or riparian habitats.

The Department recommends that wildlife surveys are conducted to determine if noise-sensitive species occur within the project area. Avoidance or minimization measures could include conducting project activities outside of breeding seasons.

Based on the project type entered, coordination with the Office of Surface Mining may be required (http://www.osmre.gov/index.shtm).

Based on the project type entered, coordination with the Environmental Protection Agency may be required (http://www.epa.gov/).

Based on the project type entered, coordination with State Historic Preservation Office may be required (http://azstateparks.com/SHPO/index.html).

Pre- and post-survey/monitoring should be conducted to determine alternative access/exits to mines and to identify and/or minimize potential impacts to bat species. For further information when developing alternatives to mine closures, contact the Arizona Game and Fish Department Nongame Bat Coordinator at the Main Office in Terrestrial Branch, https://www.azgfd.com/agency/offices or (602) 942-3000.

Based on the project type entered, coordination with Arizona Department of Environmental Quality may be required (http://www.azdeq.gov/).

Based on the project type entered, coordination with Arizona Department of Water Resources may be required (https://new.azwater.gov/).

Vegetation restoration projects (including treatments of invasive or exotic species) should have a completed site-evaluation plan (identifying environmental conditions necessary to re-establish native vegetation), a revegetation plan (species, density, method of establishment), a short and long-term monitoring plan, including adaptive management guidelines to address needs for replacement vegetation.

Avoid/minimize wildlife impacts related to contacting hazardous and other human-made substances in facility water collection/storage basins, evaporation or settling ponds and/or facility storage yards. Design slopes to discourage wading birds and use fencing, netting, hazing or other measures to exclude wildlife.

Project Location and/or Species Recommendations:
HDMS records indicate that one or more native plants listed on the **Arizona Native Plant Law and Antiquities Act** have been documented within the vicinity of your project area. Please contact:
Arizona Department of Agriculture
1688 W Adams St.
Phoenix, AZ 85007
Phone: 602.542.4373
https://agriculture.az.gov/sites/default/files/Native%20Plant%20Rules%20-%20AZ%20Dept%20of%20Ag.pdf starts on page 44

HDMS records indicate that one or more **Listed, Proposed, or Candidate** species or **Critical Habitat** (Designated or Proposed) have been documented in the vicinity of your project. The Endangered Species Act (ESA) gives the US Fish and Wildlife Service (USFWS) regulatory authority over all federally listed species. Please contact USFWS Ecological Services Offices at http://www.fws.gov/southwest/es/arizona/ or:

Phoenix Main Office
9828 North 31st Avenue #C3
Phoenix, AZ 85051-2517
Phone: 602-242-0210
Fax: 602-242-2513

Tucson Sub-Office
201 N. Bonita Suite 141
Tucson, AZ 85745
Phone: 520-670-6144
Fax: 520-670-6155

Flagstaff Sub-Office
SW Forest Science Complex
2500 S. Pine Knoll Dr.
Flagstaff, AZ 86001
Phone: 928-556-2157
Fax: 928-556-2121

HDMS records indicate that **Sonoran Desert Tortoise** have been documented within the vicinity of your project area. Please review the Tortoise Handling Guidelines found at: https://www.azgfd.com/wildlife/nongamemanagement/tortoise/

HDMS records indicate that **Peregrine Falcons** have been documented within the vicinity of your project area. Please review the Peregrine Falcon Management Guidelines at: https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/planningFor/wildlifeFriendlyGuidelines/peregrineFalconConservGuidelines.pdf.

This review has identified **riparian areas** within the vicinity of your project. During the planning stage of your project, avoid, minimize, or mitigate any potential impacts to riparian areas identified in this report. Riparian areas play an important role in maintaining the functional integrity of the landscape, primarily by acting as natural drainages that convey water through an area, thereby reducing flood events. In addition, riparian areas provide important movement corridors and habitat for fish and wildlife. Riparian areas are channels that contain water year-round or at least part of the year. Riparian areas also include those channels which are dry most of the year, but may contain or convey water following rain events. All types of riparian areas offer vital habitats, resources, and movement corridors for wildlife. The Pinal County Comprehensive Plan (i.e. policies *6.1.2.1* and *7.1.2.4*), Open Space and Trails Master Plan, Drainage Ordinance, and Drainage Design Manual all identify riparian area considerations, guidance, and policies. Guidelines to avoid, minimize, or mitigate impacts to riparian habitat can be found at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/. Based on the project type entered, further consultation with the Arizona Game and Fish Department and Pinal County may be warranted.

Analysis indicates that your project is located in the vicinity of an identified ***wildlife habitat connectivity feature***. The **County-level Stakeholder Assessments** contain five categories of data (Barrier/Development, Wildlife Crossing Area, Wildlife Movement Area- Diffuse, Wildlife movement Area- Landscape, Wildlife Movement Area- Riparian/Washes) that provide a context of select anthropogenic barriers, and potential connectivity. The reports provide recommendations for opportunities to preserve or enhance permeability. Project planning and implementation efforts should focus on maintaining and improving opportunities for wildlife permeability. For information pertaining to the linkage assessment and wildlife species that may be affected, please refer to: https://www.azgfd.com/wildlife/planning/habitatconnectivity/identifying-corridors/.
Please contact the Project Evaluation Program (pep@azgfd.gov) for specific project recommendations.

Analysis indicates that your project is located in the vicinity of an identified ***wildlife habitat connectivity feature***. The **Statewide Wildlife Connectivity Assessment's Important Connectivity Zones** (ICZs) represent general areas throughout the landscape which contribute the most to permeability of the whole landscape. ICZs may be used to help identify, in part, areas where more discrete corridor modeling ought to occur. The reports provide recommendations for opportunities to preserve or enhance permeability. Project planning and implementation efforts should focus on maintaining and improving opportunities for wildlife permeability. For information pertaining to the linkage assessment and wildlife species that may be affected, please refer to: https://s3.amazonaws.com/azgfd-portal-wordpress/azgfd.wp/wp-content/uploads/0001/01/23120719/ALIWCA_Final_Report_Perkl_2013_lowres.pdf.
Please contact the Project Evaluation Program (pep@azgfd.gov) for specific project recommendations.

Victoria Boyne

Subject: FW: [External]Mitigation follow-up question
Attachments: 20201028_Wildlife_Management_Plan.pdf

From: Ballard, Kami (RC) <Kami.Ballard@riotinto.com>
Sent: Wednesday, October 28, 2020 2:53 PM
To: Chris Garrett <cgarrett@swca.com>; mcrasmussen@fs.fed.us
Cc: Donna Morey <dmorey@swca.com>; Peacey, Victoria (RC) <victoria.peacey@riotinto.com>
Subject: RE: [External]Mitigation follow-up question

Hello,

The attached Wildlife Management Plan has been revised to include language that addresses M-WL33 (burrowing owl protection measures).

Please let me know if you have any questions.

Thank you,

Kami Ballard
Environmental & Permitting Advisor – Resolution Copper

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