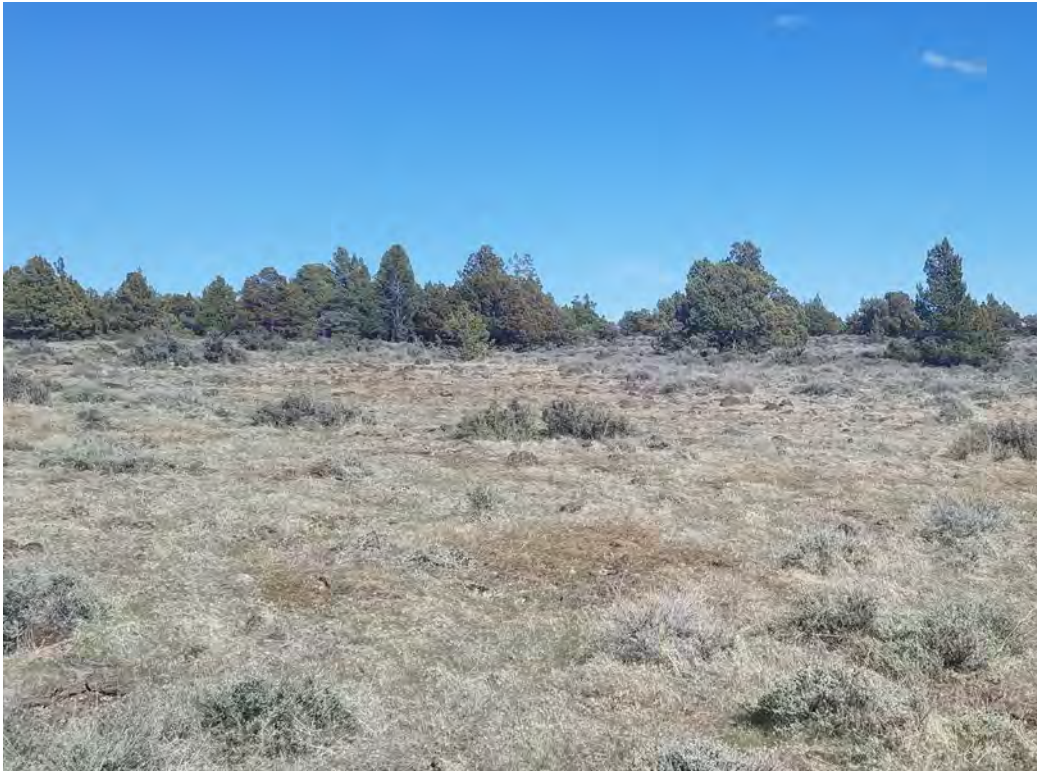


BIOLOGICAL RESOURCES ASSESSMENT

SKYLINE AGGREGATES QUARRY DEVELOPMENT
HAT CREEK CONSTRUCTION & MATERIALS, INC.
LASSEN COUNTY, CALIFORNIA



Prepared for

TLT Enterprises LLC

Prepared by



VESTRA Resources, Inc.
5300 Aviation Drive
Redding, California 96002

DECEMBER 2025

BIOLOGICAL RESOURCES ASSESSMENT

SKYLINE AGGREGATES QUARRY DEVELOPMENT
HAT CREEK CONSTRUCTION & MATERIALS, INC.
LASSEN COUNTY, CALIFORNIA

Prepared for

TLT Enterprises LLC

Prepared by

VESTRA Resources, Inc.
5300 Aviation Drive
Redding, California 96002

71305

DECEMBER 2025

TABLE OF CONTENTS

SECTION

1.0	INTRODUCTION	1
1.1	Project Description	1
2.0	REGULATORY FRAMEWORK FOR BIOLOGICAL RESOURCES	2
2.1	Federal Regulations.....	2
2.2	State Regulatory Requirements	2
3.0	AFFECTED ENVIRONMENT	4
3.1	Project Setting.....	4
3.2	Natural Resources.....	4
3.3	Special-Status Species.....	7
4.0	BIOLOGICAL SITE SURVEY	8
4.1	Desktop Review.....	8
4.2	Methods.....	8
4.3	Results	9
5.0	POTENTIAL IMPACTS TO BIOLOGICAL RESOURCES.....	10
5.1	Special-Status Species.....	10
5.2	Sensitive Natural Communities	17
5.3	State and Federally Protected Wetlands	17
5.4	Resident or Migratory Wildlife Corridors and Nursery Sites	17
5.5	Local Policies and Ordinances	20
5.6	Conservation Plans	20
6.0	POTENTIAL IMPACTS DISCUSSION	21
6.1	Thresholds of Significance.....	21
6.2	Direct Impacts	21
6.3	Indirect Impacts.....	24
7.0	BIOLOGICAL CONSERVATION MEASURES	29
7.1	General Wildlife.....	29
7.2	American Pronghorn and Mule Deer	29
7.3	Greater Sandhill Crane	29
7.4	Nesting Birds and Raptors.....	30
7.5	Streams and Wetlands.....	30
7.6	Botanical Species	30
7.7	Monarch Butterfly	31
7.8	Bumble Bees.....	31
7.9	Long-Eared Myotis.....	32
8.0	SUMMARY STATEMENT	33
9.0	REFERENCES.....	34

TABLES

1	Potentially Occurring Special-Status Species.....	11
2	Noise Impacts from Operations	26

FIGURES

1	General Site Location
2	Vegetation Alliances
3	National Wetlands Inventory
4	Avian Point Count
5	Myotis Habitat (Phase 1 Area)
6	Deer and Antelope Habitat

APPENDICES

A	Site Plan (Mining Phases and Final Topography)
B	NRCS Soil Report
C	U.S. Fish and Wildlife Service Species List
D	Long-Eared Myotis (<i>Myotis evotis</i>) Predicted Habitat Quality

1.0 INTRODUCTION

This report includes a project description incorporating proposed conservation measures, study methods, regulatory framework, description of the affected environment, and descriptions of impacts on sensitive resources within the boundary of the proposed Skyline Aggregates Quarry Development and all potentially impacted areas surrounding the proposed mine.

1.1 Project Description

The proposed mining operations will include excavation and processing of aggregate on a 460-acre portion of an approximately 640-acre property located roughly 0.30 miles northeast of the city of Susanville, California. Approximately 460 acres of the project site will be directly affected by active mining operations, which will occur in five phases over forty years. The remainder of the property will remain undisturbed.

Generally, the facility will operate from 6:00 a.m. until 6:00 p.m., Monday through Saturday, with limited operations occurring on Sundays. During construction season, the site may operate 24 hours a day to meet construction demand and Caltrans requirements for nighttime work. It is estimated that this will occur on fewer than 150 days per year.

The proposed activities include the operation of a surface mine and sorting and processing of mined materials onsite, including aggregate, asphalt, and ready-mix concrete, as well as storage of commercial landscape materials. The mined aggregate material will be processed using a crusher, followed by washing the materials and screening to different sizes. The site will include a crusher, screening machine, washer, asphalt plant, concrete plant, offices, scales, and a stockpile area. The Site Plan is included as Appendix A.

The proposed end use following reclamation of the mine site is rangeland to be used for cattle grazing. Wildlife habitat will be restored in portions of the property by planting native plants.

2.0 REGULATORY FRAMEWORK FOR BIOLOGICAL RESOURCES

This section describes the federal and state regulation of special-status botanical and wildlife species and critical habitats, federally jurisdictional Waters of the United States, and other sensitive biological resources.

2.1 Federal Regulations

2.1.1 Federal Endangered Species Act

Section 9 of the federal Endangered Species Act of 1973 (ESA) prohibits acts that result in the “take” of threatened or endangered species. As defined by the federal ESA, “endangered” refers to any species that is in danger of extinction throughout all or a significant portion of its current range. The term “threatened” is applied to any species likely to become endangered within the foreseeable future throughout all or a significant portion of its current range. “Take” is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.” Sections 7 and 10 of the federal ESA provide methods for permitting otherwise lawful actions that may result in “incidental take” of a federally listed species. Incidental take refers to the take of a listed species that is incidental to, but not the primary purpose of, an otherwise lawful activity. Incidental take is permitted under Section 7 for projects on federal land or involving a federal action; Section 10 provides a process for non-federal actions. The act is administered by the U.S. Fish and Wildlife Service (USFWS) for terrestrial species.

2.1.2 Migratory Bird Treaty Act

Migratory birds are protected under the Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Mitigation measures can be identified to avoid or minimize adverse effects on migratory birds.

2.1.3 Fish and Wildlife Conservation Act

The Fish and Wildlife Conservation Act directs the Secretary of the Interior to monitor and assess population trends and status; to identify environmental change and human activities; and to identify species in need of additional conservation and identify conservation actions to ensure perpetuation of these species. This Act mandates the USFWS to “identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act (ESA) of 1973.” *Birds of Conservation Concern 2021, Migratory Bird Program* (USFWS, 2021), is the most recent effort to carry out this mandate.

2.2 State Regulatory Requirements

2.2.1 California Endangered Species Act

The California Endangered Species Act (CESA) lists species of plants and animals as threatened or endangered. Projects that may have adverse effects on State-listed species require formal

consultation with the California Department of Fish and Wildlife (CDFW). “Take” of protected species incidental to otherwise lawful activities may be authorized under Section 2081 of the California Fish and Game Code. Authorization from the CDFW is in the form of an Incidental Take Permit, and measures can be identified to minimize take. CDFW Species of Special Concern are considered under the California Endangered Species Act.

2.2.2 Birds of Prey

Under Section 3503.5 of the California Fish and Game Code, it is unlawful to take, possess, or destroy any birds in the orders of Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird, except as otherwise provided by this code or any regulation adopted pursuant thereto.

2.2.3 Migratory Birds

The California Fish and Game Code Section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

2.2.4 Fully Protected Species

California statutes also accord “fully protected” status to several specifically identified birds, mammals, reptiles, amphibians, and fish. These species cannot be “taken,” even with an incidental take permit (California Fish and Game Code, Sections 3505, 3511, 4700, 5050, and 5515).

2.2.5 Fish and Game Code Section 1801

It is the policy of the Fish and Game Commission to encourage the preservation, conservation, and maintenance of wildlife resources under the jurisdiction and influence of the State. This policy shall include the following objectives: (a) To maintain sufficient populations of all species of wildlife and the habitat necessary to achieve the objectives stated in subdivisions (b), (c), and (d); (b) To provide for the beneficial use and enjoyment of wildlife by all citizens of the state; (c) To perpetuate all species of wildlife for their intrinsic and ecological values, as well as for their direct benefits to all persons; (d) To provide for aesthetic, educational, and non-appropriative uses of the various wildlife species; (e) To maintain diversified recreational uses of wildlife, including the sport of hunting, as proper uses of certain designated species of wildlife, subject to regulations consistent with the maintenance of healthy, viable wildlife resources, the public safety, and a quality outdoor experience; (f) To provide for economic contributions to the citizens of the state, through the recognition that wildlife is a renewable resource of the land by which economic return can accrue to the citizens of the state, individually and collectively, through regulated management, with such management consistent with the maintenance of healthy and thriving wildlife resources and the public ownership status of the wildlife resources; and (g) To alleviate economic losses or public health or safety problems caused by wildlife to the people of the state, either individually or collectively. Such resolution shall be designed to bring the problem within tolerable limits consistent with economic and public health considerations and the objectives stated in subdivisions (a), (b), and (c).

3.0 AFFECTED ENVIRONMENT

3.1 Project Setting

The Skyline Aggregates Quarry site is located northeast of Susanville, east of State Highway 139, and north of Skyline Road. The proposed mine site is identified as Lassen County Assessor's Parcel Nos. (APN) 101-110-24 and 101-270-44. The site occupies Sections 27 and 34, Township 30N, Range 12 East, MDBM. The general site location is shown on Figure 1.

The site is currently vacant land zoned as "Upland Conservation Agricultural Preserve District." The parcel area is a total of 640 acres. The proposed mine area encompasses approximately 460 acres along the eastern side of the parcel. According to the General Plan, the designated land use for the mine area is "Urban Reserve." The surrounding area to the north and east is Bureau of Land Management public lands that extend several miles. The city of Susanville surrounds the site on the western and southern sides. Existing development in the area includes Lassen Community College and Banner Lassen Medical Center on the western side. Agricultural development and a slough designated as "Resource Conservation" border the south of the property.

3.2 Natural Resources

3.2.1 Vegetation Communities

Vegetation at the project site has been identified via the CDFW Vegetation Classification and Mapping Program (VegCAMP) data and field surveys, which identify vegetation communities on a small scale using definitions published in *A Manual of California Vegetation* (Sawyer et al. 2009). The vegetation alliances identified onsite in order of dominance are *Artemisia arbuscula* ssp. *arbuscula* Shrubland Alliance, *Juniperus occidentalis* Woodland Alliance, *Bromus tectorum* - *Taeniatherum caput-medusae* Herbaceous Semi-Natural Alliance, and *Artemisia tridentata* Shrubland Alliance. Onsite vegetation communities are shown on Figure 2. The structure and composition of habitat types observed onsite are described below.

Areas onsite that lack vegetation are considered "barren" habitat. Natural volcanic boulder fields that lack vegetation entirely span the landscape. Areas onsite have been previously disturbed by human activities. All vegetation was removed from these areas during evident historic grading.

***Artemisia arbuscula* ssp. *arbuscula* Shrubland Alliance**

The site is dominated by the little sage (*Artemisia arbuscula* ssp. *arbuscula*) vegetation community. In these areas, little sage is dominant in the shrub canopy, with rabbitbrush (*Chrysothamnus viscidiflorus*), green ephedra (*Ephedra viridis*), and bitterbrush (*Purshia tridentata*) occurring at low density. The shrub density reflects the changes in soil conditions onsite; areas with very shallow and rocky soils support a lower shrub density than other areas with juniper trees (*Juniperus occidentalis*), which are present at varying densities across the landscape but are not co-dominant with sagebrush in these areas.

The little sagebrush community provides foraging habitat for pronghorns. It is also occupied by jackrabbits, cottontail rabbits, ground squirrels, mice, voles, badgers, snakes, lizards, and many birds.

***Juniperus occidentalis* Woodland Alliance**

Juniper habitats are characterized as woodlands of open to dense aggregations of junipers in the form of arborescent shrubs or small trees. Soil depth, components (texture, organic matter, nutrients), and moisture profoundly influence the composition of plants in juniper habitats. The *Juniperus occidentalis* Woodland Alliance onsite occurs where tree cover dominates the shrubland cover. Associated shrub species onsite include little sage (*Artemisia arbuscula* ssp. *arbuscula*), bitterbrush (*Purshia tridentata*), and sparse green ephedra (*Ephedra viridis*). The understory immediately surrounding juniper trees is generally covered in a thick layer of duff and juniper needles. Forbs that occur in openings between trees and shrubs include matted wild buckwheat (*Eriogonum caespitosum*), Hooker's balsam root (*Balsamorhiza hookeri*), Regel's mountain penstemon (*Penstemon roezlii*), and native mosses and lichen.

Junipers are relatively slow-growing; western juniper (*Juniperus occidentalis*) may reach 3,000 years of age. Western juniper in northeastern California is considered to mature slowly, taking roughly 150 years to reach full maturity. Encroachment of juniper trees into sagebrush and grasslands has been observed in recent decades, resulting in the conversion of shrub and grassland communities to groves of relatively young juniper trees. Mature juniper forests, however, are a natural component and play an important role in the sage steppe ecosystem.

A juniper tree is considered old growth juniper would if it meets any one of the following criteria: (1) rounded or unsymmetrical tops that may be sparse and contain dead limbs; (2) deeply furrowed, fibrous bark on the trunk that is reddish in color; (3) branches near the base of the tree that may be very large and covered with fruticose lichens; (4) limited terminal leader growth on branches in the upper 25 percent of the canopy (USFS, 2008). Stands of juniper trees meeting one or more of these criteria were observed onsite, indicating that the juniper forest onsite is a mature stand that plays an important ecological role.

Juniper berries are an important food source for wintering birds. Juniper foliage is also consumed by several mammals and may be an important food source for some of these animals, especially during harsh winters. Juniper trees can provide protective cover in an otherwise sparsely vegetated landscape, which is important for pronghorn, mule deer, coyotes, bats, and many species of birds.

***Bromus tectorum* - *Taeniatherum caput-medusae* Herbaceous Semi-Natural Alliance**

Many areas onsite have been infested with non-native invasive annual grass species, likely due to historic grazing of the site. In these areas, cheat grass (*Bromus tectorum*) and medusahead (*Taeniatherum caput-medusae*) are co-dominant. The density of grasses in this community ranges from roughly 25 percent cover by both species in areas with very shallow, rocky soils to nearly 100 percent cover of solely medusahead in other areas.

These grass species are small and provide little to no protective cover. Grasslands may provide some forage opportunities. Medusahead is not important to wildlife forage and is not preferred by grazing mammals such as mule deer (Bodurtha, 1989). Cheatgrass may provide foraging opportunities for grazing mammals during the growing season, while cheatgrass seeds may provide limited food for birds and rabbits. Grassland habitat can also provide foraging habitat for turkey vultures, hawks, and prairie falcons.

Wet Meadow

Wet meadows at all elevations generally have a simple structure consisting of a layer of herbaceous plants. Shrub or tree layers are usually absent or very sparse; they may, however, be an important feature of the meadow edge. Because wet meadows occur with a great variety of plant species, it is not possible to generalize species composition. Species may differ, but several genera are common to wet meadows throughout the state. Wet meadows have more forbs and fewer grasses and grass-like species than properly grazed or ungrazed (by livestock) meadows, and taller species are replaced by lower-growing types.

Mule deer may feed in wet meadows, seeking especially forbs and palatable grasses. Waterfowl, especially mallard ducks, frequent streams flowing through wet meadows. Sandhill cranes utilize wet meadow habitat for foraging, nesting, and raising their young. Semi-aquatic snakes and frog species are abundant in wet meadows throughout California.

Wet meadow habitat previously mapped on approximately 15 acres south of the project boundary was not observed during site surveys. The area is occupied by irrigated agricultural fields. The site survey found that the northern portion of this area, mapped as wet meadow, is seasonally dry and lacks wetland vegetation. A stock pond is located within this area. A slough system surrounded by emergent wet meadow components occurs outside of the property.

Cropland

A small area of the site is irrigated pasture/cropland. Many species of rodents and birds have adapted to these habitats. Wildlife such as waterfowl, sandhill cranes, and other species that use waste grains after harvest are usually not discouraged by growers and therefore may inhabit croplands. This habitat extends from the wet meadow/irrigated fields to the south beyond the southern border of the project site, where it abuts the system of sloughs.

3.2.2 Soils

The Natural Resources Conservation Service (NRCS) in 2024 identified six soil types within the project property. Soil map units that cover most of the property are Searles-Orhood-Nevada association (~25 percent of the site), Tunnison Very Cobbly Clay (22 percent of the site), and Tunnison-Devada association (~45 percent of the site). These soils onsite exhibit a range from “low” to “moderate” permeability. The dominant soil types exhibit high percentages of stone and cobble and have a bedrock depth of less than 40 inches. Other soil units, present only in low-elevation areas at the south end of the site, are Springmeyer Sandy Loam (~4 percent of the site) and Horsecamp cobbly silty clay, 2 to 9 percent slopes (~4 percent of the site). The NRCS soils report is included in Appendix B.

3.2.3 Hydrology

The National Wetlands Inventory (NWI) shows a stream and wetland features located within the parcel. These wetland features are shown on Figure 3.

The stream flows in a ravine along the eastern parcel boundary. Approximately 0.5 miles of this stream occur within the proposed mining boundary. A buffer ranging from 175 feet to 550 feet will be maintained around the stream throughout the life of the mine. No disturbance to the stream will occur.

Three stock ponds (~0.05 acres) are mapped within the subject parcel.

A freshwater emergent wetland system is located adjacent to the mine parcel. The wetland system is comprised of Jensen Slough and Brockman Slough, which flow across the adjacent parcel in a series of braided shallow channels. The slough is fed by a side channel from the Susan River, which flows through adjacent agricultural fields and then follows the proposed mine property's southern border before flowing into the slough (Figure 3). Water flows from the slough ultimately back into the Susan River approximately 3.5 miles downstream from the mouth of the slough.

3.3 Special-Status Species

3.3.1 Special-Status Plants

Special-status plant species include plants that are (1) designated as rare by CDFW or USFWS or are listed as threatened or endangered under the California Endangered Species Act (CESA) or ESA; (2) proposed for designation as rare or listing as threatened or endangered; (3) designated as state or federal candidate species for listing as threatened or endangered; and/or (4) ranked as California Rare Plant Rank (RPR) 1A, 1B, 2A, or 2B. A list of regionally occurring special-status plant species was compiled based on a review of pertinent literature, the results of the field surveys, a review of the USFWS species list and California Natural Diversity Database (CNDDDB), and a nine-quad search of California Native Plant Society (CNPS) database records.

For each special-status plant species, habitat and other ecological requirements were evaluated and compared to the habitats in the study area and immediate vicinity to assess the presence of potential habitat. The habitat assessment is provided in Section 5.0, Table 1.

3.3.2 Special-Status Animals

Special-status animal species include species that are (1) listed as threatened or endangered under the CESA or the ESA; (2) proposed for federal listing as threatened or endangered; (3) identified as state or federal candidates for listing as threatened or endangered; and/or (4) identified by the CDFW as Species of Special Concern or California Fully Protected Species.

A list of regionally occurring special-status wildlife species was compiled based on a review of pertinent literature and consultations with the USFWS Information for Planning and Consultation (iPAC) database (see Appendix C) and CNDDDB, and a query of the California Wildlife Habitats Relationship (CWHR) system.

For each special-status wildlife species, habitat and other ecological requirements were evaluated and compared to the habitats in the study area and immediate vicinity to assess the presence of potential habitat. The habitat assessment is provided in Section 5.0, Table 1.

4.0 BIOLOGICAL SITE SURVEY

4.1 Desktop Review

Special-status plant and animal species and sensitive habitats that have the potential to occur within the project area were determined, in part, by reviewing agency databases, literature, and other relevant sources. The following information sources were reviewed in November 2025 to aid this determination:

- Johnstonville, California, USGS 7.5-minute quadrangle and surrounding quadrangles;
- Aerial imagery of the project area and vicinity;
- USFWS official list of endangered and threatened species that may occur, or be affected by projects, as provided by the information for Planning and Consultation (iPAC) database;
- CNDDDB records for the Johnstonville, California, USGS 7.5-minute quadrangle and the eight surrounding quadrangles;
- CNPS online Inventory of Rare and Endangered Plants (California Native Plant Society, 2015) records for the Portola, California, USGS 7.5-minute quadrangle and the eight surrounding quadrangles;
- CWHR System (CDFW);
- GIS shapefiles of designated critical habitat from the USFWS Critical Habitat Portal website;
- CDFW publications including State and Federally Listed Endangered, Threatened and Rare Plants of California; State and Federally Listed and Threatened Animals of California; and Special Animals List); and
- Pertinent biological literature, including *Bird Species of Special Concern in California* (Shuford and Gardali, 2008).

4.2 Methods

Pedestrian surveys were first completed on April 16, 2020, to determine the vegetation communities onsite and identify any habitat that may support special-status plants or wildlife. An updated pedestrian survey was completed on April 14, 2023, to complete a detailed assessment within the Phase 1 mining area. The survey involved mapping vegetation and areas with potential special-status species habitat. The surveys were completed by walking pedestrian surveys across the site. Transects were spaced between 25 and 75 feet apart, which was appropriate for achieving visual coverage of the site due to the open vegetation conditions and gently sloping terrain.

Vegetation was mapped to the Alliance level according to *A Manual of California Vegetation*. A Trimble Geo 6000 was used to map the boundary of vegetation communities within the Phase 1 mine area. The dominant species were identified to determine the vegetation community to the Alliance level.

Point-count surveys were completed to document site utilization by songbirds and raptors. The survey was completed between the hours of 10:00 a.m. and 12:00 p.m., when temperatures ranged from 44 degrees Fahrenheit (°F) to 51°F. Visibility was clear and there was a light breeze. Point-count stations were stratified throughout the Phase 1 mine area, shown in Figure 4.

Mining will progress from Phase 1 through Phase 5. The methods described herein will be implemented within each mine phase boundary prior to mining in the area.

4.3 Results

The following wildlife was detected during the survey: coyote (*Canis latrans*), bobcat (*Lynx rufus*), ground squirrel (*Otospermophilus* sp.), jackrabbit (*Lepus* sp.), mountain lion (*Puma concolor*), mule deer (*Odocoileus hemionus*), raccoon (*Procyon lotor*), western fence lizard (*Sceloporus occidentalis*), wood rat (*Neotoma* sp.) nests, and striped skunk (*Mephitis mephitis*).

Avian species observed during point-count surveys included juniper titmouse (*Baeolophus ridgwayi*), northern flicker (*Colaptes auratus*), turkey vulture (*Cathartes aura*), and numerous song sparrows (*Melospiza melodia*). A pair of northern flickers was observed exhibiting nesting behavior while perched together on a snag. A pair of sandhill cranes was observed in the slough that occurs south of the property upon leaving the site. No sandhill crane nests were observed; however, potential nesting habitat is present to the south of the site.

The dominant plant species observed onsite include low sagebrush (*Artemisia arbuscula*), antelope bitterbrush (*Purshia tridentata*), green ephedra (*Ephedra viridis*), western juniper (*Juniperus occidentalis*), medusahead (*Elymus caput-medusae*), and cheatgrass (*Bromus tectorum*). Other plant species observed onsite include sagebrush mariposa (*Calochortus macrocarpus*), navarretia (*Leucocephala* ssp. *minima*), bottlebrush squirreltail (*Elymus elymoides*), matted wild buckwheat (*Eriogonum caespitosum*), Hooker's balsamroot (*Balsamorhiza hookeri*), woolly mule's ears (*Wyethia mollis*), hawksbeard (*Crepis* ssp.), Regel's mountain penstemon (*Penstemon roezlii*), Great Basin violet (*Viola beckwithii*), and native mosses and lichens.

5.0 POTENTIAL IMPACTS TO BIOLOGICAL RESOURCES

5.1 Special-Status Species

The regionally occurring species identified during the pre-survey consultation were assessed based on the potential for their habitat to occur within the proposed mining area. The habitat of each species and the determination of whether the species is likely to occur in the project area are summarized in Table 1. The potential impacts to these species are discussed below.

The presence of habitat for each of the potentially occurring special-status species was assessed to determine which of the species is likely to occur within the project area. The presence of potential habitat onsite for each species is discussed below. Potential project impacts to the species that may occur onsite are discussed in detail in Section 6.0.

Species with habitat requirements that are not present onsite were determined to be unlikely to occur and are not discussed further. Based on this assessment, the following species may occur onsite:

- Greater sandhill crane (*Grus canadensis tabida*)
- Prairie falcon (*Falco mexicanus*)
- American badger (*Taxidea taxus*)
- North American porcupine (*Erethizon dorsatum*)
- Gray wolf (*Canis lupus*)
- Monarch butterfly (*Danaus plexippus*)
- Morrison's bumble bee (*Bombus morrisoni*)
- Suckley's cuckoo bumble bee (*Bombus suckleyi*)
- Pulsifer's milk-vetch (*Astragalus pulsiferae* var. *pulsiferae*)
- Susanville beardtongue (*Penstemon sudans*)

Greater sandhill crane

Grus canadensis tabida

The greater sandhill crane is recognized as a threatened species by the State of California and is "Fully Protected" by the CDFW. This species historically wintered in the Sacramento and San Joaquin valleys from Tehama County south to Kings County and spent the summer season breeding in northeastern California. Numbers in California have been greatly reduced, and this species now only breeds in the counties of Siskiyou, Modoc, Lassen, Plumas, and Sierra.

Greater sandhill cranes utilize shortgrass plains, agricultural fields, and shallow open wetlands for foraging and nest in remote areas of extensive wetlands. The species can utilize certain croplands for foraging, but they rely heavily on large expanses of wetland habitat for reproduction. Breeding pairs return to the same breeding territory annually but will not nest if nesting conditions are unfavorable. They are highly sensitive to human disturbance during the nesting period (April through August). With a few exceptions, most pairs select sites rather isolated from human activity (Northwest Power and Conservation Council, 2004).

Table 1 POTENTIALLY OCCURRING SPECIAL-STATUS SPECIES							
Scientific Name	Common Name	Fed Status	State Status	CRPR Status	Habitat	Habitat Present in Action Area?	Project Impact Determination
Birds							
<i>Astur atricapillus</i>	American goshawk	--	CDFW SSC	N/A	Nest in mature and old-growth forest stands	No	No Impact
<i>Antigone canadensis tabida</i>	Greater sandhill crane	--	T CDFW FP		Emergent wetlands, wet meadows, irrigated pasture	Yes – site lacks adequate wet meadow habitat for nesting or foraging but nesting habitat on adjacent property	No Impact
<i>Falco mexicanus</i>	Prairie falcon	USFWS BSC	CDFW WL		Nest on cliff ledges overlooking open meadows in grasslands and forests	Yes – site lacks nesting habitat, but foraging possible in surrounding area	Less than Significant
<i>Agelaius tricolor</i>	Tricolored blackbird	USFWS BSC	T CDFW SSC		Wetlands or streams with dense emergent vegetation; nest in colonies	No – site lacks dense emergent vegetation	No Impact
<i>Athene cucularia</i>	Burrowing owl	USFWS BSC	CE CDFW SSC		Grassland, shrub steppe, and desert; habitat typified by short, sparse vegetation, level to gentle topography, and well-drained soils. Require burrows; often use existing burrows made by badgers, coyotes, or ground squirrels	No – site lacks suitable soils for burrowing	No Impact
<i>Centrocercus urophasianus</i>	Greater sage grouse	PE	CE CDFW SSC		Sage grouse use big sagebrush (<i>A. tridentata</i>) cover type and mixed shrubs with adequate cover. Hens may forage in low sagebrush (<i>A. arbuscula</i>)	No – <i>A. arbuscula</i> onsite lacks shrubs with adequate cover. Patches of <i>A. tridentata</i> are too small to support lek. Outside of species range (CNDDDB 2023)	No Impact
<i>Riparia riparia</i>	Bank swallow	--	T		Sandy vertical cliffs and stream banks	No – site lacks sandy vertical banks/cliffs	No Impact
<i>Gymnogyps californianus</i>	California condor	E	E CDFW FP		Roost on cliffs, rocky outcrops, large trees, and snags. Foraging can take place on grasslands, oak savanna foothills, and beaches with coastal mountains	No – site lacks large trees or cliffs needed for nesting	No Impact
Mammals							
<i>Taxidea taxus</i>	American badger	--	CDFW SSC	N/A	Dry open stages of most shrub and forest habitats, denning requires deep, friable soils	Yes – site lacks suitable soils for denning; low potential for dispersing individuals	Less than Significant
<i>Erethizon dorsatum</i>	N. American porcupine	--	--		Montane conifer and wet meadows	Yes – site lacks meadow and conifer habitat; low potential for dispersing individuals	Less than Significant

Table 1 POTENTIALLY OCCURRING SPECIAL-STATUS SPECIES							
Scientific Name	Common Name	Fed Status	State Status	CRPR Status	Habitat	Habitat Present in Action Area?	Project Impact Determination
<i>Canis lupus</i>	Gray wolf	E	E		Temperate forests, mountains, tundra, taiga, grasslands, and deserts	Yes – site lacks denning areas	Less than Significant
Invertebrates							
<i>Bombus morrisoni</i>	Morrison's bumble bee	--	--	N/A	Nest in underground cavities (i.e., squirrel burrow)	Yes	Less than Significant
<i>Bombus suckleyi</i>	Suckley's cuckoo bumble bee	PE	CE		Prairies, grasslands, meadows, urban and agricultural areas, and woodlands. Requires the presence of another <i>Bombus</i> species to act as a host	Yes – there is potential for host bumble bee species to be present	Less than Significant
<i>Danaus plexippus</i>	Monarch butterfly	PT	--		Meadows and open fields; relies on locally native milkweed (<i>Asclepias</i> spp.); widespread in summer, migrates to southern California in winter	Yes	Less than Significant with Mitigations
<i>Pseudocopaeodes eunus obscurus</i>	Carson's wandering skipper	E	--		Salt bush-greasewood community	No	No Impact
Reptiles							
<i>Actinemys marmorata</i>	Northwestern pond turtle	PT	CDFW SSC	N/A	Streams, ponds, lakes, and permanent and ephemeral wetlands. Dry uplands are needed for nesting	No	No Impact
Plants							
<i>Carex sbeldonii</i>	Sheldon's sedge	--	--	2B.2	Wetlands; "obligate" wetland indicator plant	No	No Impact
<i>Alisma gramineum</i>	Grass alisma	--	--	2B.2	Wetlands; "obligate" wetland indicator plant	No	No Impact
<i>Mertensia longiflora</i>	Long bluebells	--	--	2B.2	Yellow pine forest; seasonally moist plains and foothills	No	No Impact
<i>Astragalus pulsiferae</i> var. <i>pulsiferae</i>	Pulsifer's milk-vetch	--	--	1B.2	Sandy or rocky soils in pine or sagebrush communities; 4,300 – 5,600 feet elevation	Yes – sagebrush community present, rocky/cobbly clay soils offer low-quality habitat	Less than Significant with Mitigation
<i>Penstemon sudans</i>	Susanville beardtongue	--	--	4.3	Open, rocky soils in pine or sagebrush communities	Yes – habitat present in areas with rocky soils	Less than Significant with Mitigation
KEY: FED - USFWS BSC: US Fish and Wildlife bird species of special concern; ESA E: Endangered, PE: proposed endangered, PT: proposed threatened; STATE – CDFW SSC: California Department of Fish and Wildlife Species of Special Concern; CDFW FP: Fully Protected; CDFW WL: watch list; T: threatened; E: endangered; CE: candidate for listing as endangered; CRPR - 1B.2: rare, threatened, or endangered in California and elsewhere; 2B.2: rare, threatened, or endangered in California, but more common elsewhere; 4.3: limited distribution with a low threat level in California.							

Greater sandhill crane nesting in its summer range generally begins in April/May and extends through July/August. By September, the Central Valley's greater sandhill crane population begins their southwestern migration and arrives on the Central Valley wintering grounds by late September, where they remain until approximately late February/early March, when they begin their northward migration back to the breeding grounds (Butte County, 2019). Sandhill cranes select sites that are isolated from human activity.

Greater sandhill cranes were observed adjacent to the site during the survey completed on April 16, 2020. Two sandhill cranes were heard in the nearby slough, located approximately 0.25 miles south of the property. The emergent wetland and slough system south of the property provides foraging habitat and possible nesting habitat for the species, which has been previously utilized by greater sandhill cranes. According to the CNDDDB, a pair of greater sandhill cranes was recorded nesting approximately 0.75 miles south of the property at Bartley's Flying B Ranch in 2000. The noise generated from mine processing areas will be minimized through project design. A sub-grade processing area will be developed such that the asphalt plant, lime plant, and stockpiles will be approximately 50 feet below the surrounding landscape. This will prevent noise pollution from reaching surrounding resources, including the slough system. Project impacts to greater sandhill cranes are discussed further in Section 6.0.

Prairie falcon

Falco mexicanus

Prairie falcons are raptors that are distributed from annual grasslands to alpine meadows, but are associated primarily with perennial grasslands, savannahs, rangeland, some agricultural fields, and desert scrub areas. This species usually nests in a scrape on a sheltered ledge of a cliff overlooking a large, open area. Foraging behavior includes diving from a perch or from searching flight 15 to 90 m (50 to 300 feet) above ground with rapid pursuit of the prey item. According to the CNDDDB, prairie falcons have been documented in the general vicinity of the town of Susanville.

Although rock outcrops exist onsite, they do not meet the requirements of nesting habitat for prairie falcons. Onsite rock outcrops are low-lying boulder fields that lack any vertical cliff structure to provide perching opportunities or nesting habitat. No prairie falcon nesting habitat will be disturbed as a result of the proposed mine operations. There is high-quality foraging habitat onsite and in the sagebrush, grassland, and agricultural fields surrounding the site.

There is potential for prairie falcons to fly overhead while searching for prey in the general area. Because the mine operations will result in a temporary reduction in tree density, the reduced canopy may create additional foraging opportunities for prairie falcons by improving visibility of any ground-dwelling prey items within the mine boundary, such as ground squirrels, small birds, and insects. Prairie falcons may take advantage of this improved foraging habitat at times when the mine is not in operation. Prairie falcons in flight will likely avoid the project area while the site is operating and will select an alternate foraging habitat in the surrounding area. Project impacts to prairie falcons are discussed further in Section 6.0.

American badger

Taxidea taxus

American badgers inhabit dry, open stages of shrub-dominant and forest habitats, as well as riparian corridors. In California, American badgers are occasionally found in open chaparral

(with less than 50 percent plant cover) and riparian zones with varying canopy cover. The burrowing behavior of American badgers requires that their habitat have deep, friable soils. This species is nocturnally active and preys primarily on fossorial rodents but may opportunistically eat other prey items depending on food availability.

The home range of an American badger is variable throughout the year. Site utilization changes between seasons and is usually related to prey availability. Males generally have larger home ranges than females. Radio-transmitter tagged American badgers were found to have an average annual home range of 2,100 acres (850 hectares [ha]). The home range of one female was 1,790 acres (725 ha) in summer, 131 acres (53 ha) in fall, and 5 acres (2 ha) in winter. Home ranges are largest during the summer, so a badger may use a different burrow each day (Sullivan 1996).

Potential “high” quality habitat for American badger occurs along the western perimeter of the proposed mine area and extends westward, away from the project area. The surrounding several thousand acres are mapped as “moderate” habitat with several patches of “high” quality habitat, based on the vegetation present. Soils mapped within the project site are “very cobbly” with a high clay component. This was confirmed during pedestrian surveys of the site; the soils onsite largely consist of shallow volcanic rock and boulder fields that would not support burrowing behavior. Therefore, the site is not likely to support badgers or their burrows.

According to the CNDDDB, one adult American badger was observed within a mile of the city of Susanville in 1991. This occurrence is located at a lower elevation along the Susan River. Soils in this area differ in composition from soils that occur within the proposed mining boundary; the high silt and loam content in soils along the river are deep, friable soils that are more likely to support badgers and other burrowing mammals. However, these soils do not occur within the project area.

Due to the large home range of individual badgers, particularly in the summer season, and their moderate tolerance for human disturbance, there is potential for an individual dispersing badger to migrate through the mine site. Project impacts to American badgers are discussed further in Section 6.0.

North American porcupine

Erethizon dorsatum

The North American porcupine has been found throughout the Sierra Nevada Mountains and the Cascades, although it is thought to be extirpated from the historical range in the southern Sierra Nevada. The North American porcupine is most common in montane conifer habitats, including wet meadows. Porcupines consume a varied diet of grasses, forbs, shrubs, wetland plants, and some agricultural crops. In winter, their diet consists largely of twigs, bark, and the cambium of hardwood and conifer trees. Most common in montane conifer, Douglas-fir, alpine dwarf-shrub, and wet meadow habitats. Less common in hardwood, hardwood-conifer, montane and valley-foothill riparian, aspen, pinyon-juniper, low sage, sagebrush, and bitterbrush (Taylor 1935, Woods 1973, Dodge 1982). An individual porcupine’s home range varies from a few acres to over 250 acres. Summer home ranges are larger than winter ranges and may include a variety of habitats.

According to the CNDDDB, the species has been previously documented within five miles of the project site. These records are several decades old (the nearest record is from 1991 and the next

nearest is from 1951). The location of porcupine observation data suggests a strong preference for annual grasslands and Sierra Mixed Conifer habitat types compared to juniper and sagebrush habitats (Appel 2017). Porcupines in the area likely inhabit higher elevations and/or riparian corridors outside of the proposed mine site, where a mixed conifer canopy and presence of wet meadows provide high-quality habitat. The mine area does not provide quality habitat and would most likely be avoided due to preference for higher-quality habitat closer to coniferous-hardwood habitat borders. The porcupine would likely select an alternate habitat due to the relatively poor habitat quality onsite.

Monarch butterfly

Danaus plexippus

The monarch butterfly is a proposed threatened species for listing by the Federal ESA. In western North America, the monarch butterfly can be found anywhere during migration but requires flowering plants for feeding and breeding as well as milkweed (*Asclepias* spp.) for nesting. They overwinter in colonies in coastal California and Mexico in pines or eucalyptus and migrate to the interior valley and mountains during spring through fall. The population is largely declining due to the loss of overwintering habitat and the loss of milkweed due to development, deforestation, and herbicides.

Monarch butterfly larvae are dependent on native milkweed (*Asclepias* spp.) as their obligate larval host plant to complete the early development portion of their life cycles. Monarch caterpillars can only feed on milkweed, so they are essential for reproduction. Monarch butterflies do not overwinter in interior California, but their caterpillars or cocoons may occur on milkweed plants throughout California. Adult monarchs may occur onsite during migration, especially where flowering plants are found, and there is the potential for eggs to be laid on milkweed that is within the Project area.

Gray wolf

Canis lupus

The gray wolf is recognized as endangered by the CESA and ESA. Gray wolves are habitat generalists and can potentially occur in a wide range of habitats, including temperate forests, mountains, tundra, taiga, grasslands, and other areas where there is suitable prey. Prey species primarily include ungulates, such as moose, caribou, deer, and elk, but they will also take smaller prey, such as beaver and small mammals, and will readily scavenge.

This species is highly territorial and defends territories in packs. Territory size is a function of prey density and can range from 25 to 1,500 square miles. Both male and female wolves disperse at an equal rate and equal distances, sometimes more than 600 miles. Current threats to the gray wolf include continued conflict with humans, primarily resulting from livestock depredation, and habitat loss, degradation, and fragmentation due to land development.

The project area is within the documented territory of the Tunnison Pack. The pack has only been recognized by CDFW since early in 2025, after local livestock depredations in the fall of 2024. None of the wolves within the pack is collared, so the area of the Tunnison Pack's territory is not well known. Female LAS32F and male TUN01M have been identified as part of the pack through genetic analysis. Due to the small project footprint relative to the large home range size of the gray wolf, and the fact that gray wolves are highly mobile and capable of avoiding project-related disturbance, it is possible that this species will occur in the region, but

highly unlikely that any impacts to wolves would result from project activities. To reproduce, gray wolves need sites that are suitable for natal dens. They will utilize hollow logs, areas under tree roots, rock outcrops, other protective structures, or form dens by digging into well-drained soil. Dens are used for the first 1 to 2 months after birthing pups. Following this time, rendezvous sites are needed. Both of these sites tend to be located far from human disturbance. The project site is likely too close to human activity to be utilized as a den or rendezvous site. Additionally, the project area lacks many of the features required for wolves to den.

Morrison's bumble bee

Bombus morrisonii

This species inhabits open dry scrub where it nests underground as well as in structures and grass hummocks (Xerces, 2018). Example food plants include milkweed (*Asclepias* sp.), pea (*Astragalus* spp.), rabbitbrush (*Chrysothamnus*), thistle (*Cirsium*), and sunflowers (*Helianthus*). Colonies are annual, and only the new, mated queens overwinter. These queens emerge from hibernation in early spring and immediately start foraging for pollen and nectar and begin to search for a nest site. Nests are often located underground in abandoned rodent nests or above the ground in tufts of grass, old bird nests, rock piles, or cavities in dead trees. Initially, the queen performs all the foraging and provides the care for the colony until the first workers emerge and assist with these duties. Bumble bees collect both nectar and pollen from the plants that they pollinate (Xerces, 2018).

Bumble bee burrows may occur in the area, as they are generalists and capable of utilizing a variety of habitat features. Therefore, there is potential that bumble bees could be present within the proposed mining area. Due to their spontaneous nature of migration throughout their various life cycles, it is unlikely that the mine site will impact the species during their active period.

Suckley's cuckoo bumble bee

Bombus suckleyi

As an obligate social parasite, *Bombus suckleyi* depends on social bumble bee species for nesting and to rear its young. The availability of host colonies limits the abundance and range of this species. Suckley's cuckoo bumble bees are semi-specialist parasites. They are known to use western bumble bees (*B. occidentalis*) and Nevada bumble bees (*B. nevadaensis*) as hosts, though it is suspected that other *Bombus* species have the potential to be utilized as well. In the spring, mated females enter and take control of a host colony, using the colony's worker bees to collect pollen and nectar for the cuckoo bumble bee's offspring. Queens overwinter after mating and males die off. Females are thought to be active from late May to late October and males from July through September.

The project site falls within the range of several species that have the potential to act as hosts for Suckley's cuckoo bumble bee, including the *B. occidentalis*, *B. fervidus*, *B. nevadensis*, *B. appositus*, and *B. rufocinctus*. These species have the potential to burrow within the project site, so it is possible for Suckley's bumble bee to be present during their active period or during winter when the females are dormant. Not much information is available on how this species responds to disturbances. There is an abundance of suitable habitat for bumble bees outside of the site. If surveys are conducted prior to ground-disturbing activities and any known bumble bee nests are avoided, the project is likely to have a **less-than-significant impact** on Suckley's cuckoo bumble bee.

Plants

A desktop habitat assessment was completed to determine the potentially occurring special-status plant species within habitat types onsite. Potentially occurring special-status plant species include Pulsifer's milk-vetch (*Astragalus pulsiferae* var. *pulsiferae*) and Susanville beardtongue (*Penstemon sudans*). There is potential habitat for Susanville beardtongue in rocky soils and boulder fields. There is potential habitat for Pulsifer's milk-vetch throughout the site.

5.2 Sensitive Natural Communities

The CNDDDB serves to inventory the locations of rare natural communities in California. Communities respond to environmental changes, which can be thought of as an indicator of the overall health of an ecosystem and its component species. Rare natural communities are those communities that are of highly limited distribution. They may or may not contain rare, threatened, or endangered species. The CNDDDB ranks natural communities according to their rarity and endangerment in California. No rare natural communities or sensitive habitats occur within the proposed mining boundary.

5.3 State and Federally Protected Wetlands

A buffer would be implemented to avoid impacts to the intermittent stream that occurs in the northeast corner of the property. The project will adhere to stormwater Best Management Practices (BMPs) and industrial discharge requirements. No impacts to State or federally protected wetlands would occur.

5.4 Resident or Migratory Wildlife Corridors and Nursery Sites

5.4.1 Nesting Songbirds and Raptors

Migratory birds may nest in trees and other vegetation located within or in the immediate vicinity of the study area. All raptors and migratory birds, including common species and their nests, are protected from "take" under the California Fish and Game Code Section 3503 and 3503.5, and the federal MBTA. Additionally, the USFWS Bird Species of Special Concern designation includes bird species that are considered during environmental review. Large trees onsite and in the surrounding forest provide potential nesting habitat for migratory birds.

Onsite activities that result in tree removal or new noise generation during the nesting season (February 1 to August 31) could result in impacts to nesting birds. A point-count survey was completed in April 2023. No raptors were observed, but many passerines were observed onsite. Tree removal will be planned outside of the avian nesting season when feasible to avoid impacts to nesting birds. Otherwise, a site survey will be completed. Should a site survey detect active nests near the project area, appropriate spatial and temporal buffers will be implemented.

5.4.2 Bat Maternity Roosts

According to the CNDDDB, potentially occurring bat species in the area include the long-eared myotis (*Myotis evotis*). Ecological requirements for bat roosts and bat maternity roosts include an appropriate thermal gradient, shelter from predators, and proximity to foraging sites. During the summer, when bats are most active and raising their young, they frequently use one roost during

the day where they sleep and feed their young, and another roost at night for resting and digesting food. Long-eared myotis individuals, like many bats, can roost in tree cavities and beneath exfoliating bark in both living and dead trees. Unique to the species, pregnant long-eared myotis often roost at ground level in rock crevices, fallen logs, and sometimes in tree stumps, but they are not able to rear their young in such vulnerable locations.

A recent study found that lactating females selected rock crevices (i.e., vertical crevices and boulder fields) as maternity roosts more frequently than tree cavities, whereas males used tree cavity roosts and rock roosts more evenly. Trees were selected for roosts at sites where rock crevices were relatively less abundant. Proximity to at least one perennial water source was found to be a priority for long-eared myotis roost selection. Bats were found to select roosts that were an average of 600 feet from a water source (Snider, 2013).

According to the CNDDDB, the project site is characterized as “Low” quality habitat, and the surrounding several thousand acres to the north is considered “High” quality habitat for long-eared myotis. The predicted habitat for the general area is shown in Appendix D. The surrounding area includes Susanville Peak and several perennial water bodies, which are indicators of high-quality habitat for individual bats as well as maternity roosts. This area would not be disturbed by project activities.

There are no vertical rock outcrops onsite that would be disturbed by project activities. Trees onsite lack crevices adequate for bat maternity roosts. Although the occasional male day roost could occur underneath exfoliating bark, this is not considered roost habitat for maternity roosts or pregnant females.

Boulder fields are found onsite, which consist of fissures in the ground filled with volcanic, boulder-sized rocks, creating many horizontal rock crevices. The south-facing slope onsite may generate adequate thermal gradients within these crevices that could be appealing to individual long-eared myotis, including pregnant females. Long-eared myotis reproduction is assumed to be comparable to similar *Myotis* species; copulation occurs in the fall prior to hibernation, and the female becomes pregnant in the spring, then gives birth to pups in the spring/early summer. Once young are born, long-eared myotis select vertical rock crevices, which provide greater protection and thermal stability for pups (Manning 1993, Chruszcz 2002). Vertical rock crevices do not occur within the project area; therefore, any long-eared myotis likely migrate offsite to establish maternity roosts. Therefore, the boulder fields are most likely to be occupied by pregnant females following winter hibernation and before females give birth to their young in the spring/early summer.

The boulder fields that meet characteristics for roost habitat are shown in Figure 5. The rocks in these areas would be removed by mining activities and processed for aggregate material. Boulders would be removed during the initial ground-disturbing activities since they are near the surface. This would occur over time across the landscape over time as mining would progress in phases. Once the mining has begun in an area, the thermal and physical characteristics of the site would no longer be likely to support bats. Throughout the life of the mine, bats are likely to avoid disturbed areas and select roosting habitat in the surrounding landscape where high-quality habitat exists.

Long-eared myotis feed primarily on moths. Their diet also includes beetles, flies, and spiders. There is potential to create foraging opportunities for bats during nighttime work. Lighting would be directed downward to reduce light pollution, but increased lighting at night may draw in moths and other potential bat prey items to localized work areas where lighting occurs.

5.4.3 American Pronghorn

American pronghorn (*Antilocapra americana*) is a North American mammal in the Order Artiodactyla that inhabits wide-open habitats, including prairie and sagebrush plant communities. Pronghorn migrate seasonally between summer and winter ranges, depending on food availability and climate. The Susanville-Litchfield area comprises the southernmost habitat for pronghorn that remains in Northeastern California (Duquette, 2015); few isolated populations occur where habitat remains in the Central Valley. The proposed mine site overlaps with approximately 385 acres of winter range for American pronghorn (Figure 6). The site does not overlap with kidding grounds for pronghorn.

Pronghorn abundance in California once exceeded 500,000 animals, but habitat loss largely reduced this number over time. In 1942, the CDFW began conducting winter surveys to count the number of pronghorn annually. From 1956 to 1970, the estimated population was between 1,800 and 3,000 animals and then increased through the early 1990s. During a severe winter in 1992/1993, the population in the northeastern corner of the state decreased by almost half, and its abundance remains near that number today (Duquette, 2015). Habitat has been depleted due to agriculture, fire suppression, plant succession, invasive plants, and human development. Habitat loss has restricted the range of pronghorn to small, isolated populations in the Central Valley and northeastern corner of the state (Duquette, 2015).

Pronghorn in Lassen County migrate seasonally and require suitable habitat and minimal obstructions to their movement during migration. Individuals from the Lassen herd were tracked from 2014-2016; data showed that the herd winters in lower elevations in the Secret Valley, Bull Flat, and Mud Flat north of the Skedaddle Mountains and east of Shaffer Mountain, as well as in the Dry Valley Rim Wilderness Study Area. Summer ranges are spread out, with some individuals migrating north to the Five Springs Wilderness Study Area and others heading east to Tunnison Mountain Wilderness Study Area and Eagle Lake (CDFW, 2023). The project site is located well outside of any migration corridors between these locations.

According to CNDDB, documented migration corridors occur approximately 6.25 miles north of the project site on the other (north) side of Antelope Mountain. These extend between Horse Lake and Eagle Lake and continue north to Modoc County. The project site does not overlap with these large-scale migration corridors. The nearest known pronghorn kidding grounds are greater than 1.5 miles from the site.

In winter, shrubs are high in protein relative to other forage, and shrubs comprise most of the pronghorn diet. A comparison of vegetation at occupied and reference locations found that adult females select habitats that provide greater visibility and food availability. Sagebrush (*Artemisia* spp.), rabbitbrush (*Chrysothamnus* spp.), and bitterbrush (*Purshia tridentata*) are important pronghorn habitats throughout the Great Basin. Project impacts to pronghorn are discussed further in Section 6.0.

5.4.4 Mule Deer

The project site is located within the range of mule deer (*Odocoileus hemionus*). Mule deer inhabit a wide range of habitats, including forest, chaparral, oak woodland, sagebrush and high desert, and grasslands. In California, most mule deer herds migrate between summer range and winter range. Migration routes can be well over 100 miles in length, and function not only as travel corridors, but also as important foraging habitats. During the spring and summer, mule deer select food items available during ‘green up’, such as herbaceous flowering plants and grasses. During the winter, when herbaceous plants die off, mule deer switch to the nutritious buds and leaves of woody vegetation (Sawyer, 2011).

The mule deer summer range is typically high in elevation and utilized for its nutritious green forage and fawning areas. These high-elevation areas are covered in snow during the winter, so deer migrate to lower elevations prior to deep snow. Winter ranges are generally at lower elevations and are far less abundant than summer ranges, making them vulnerable to human impacts and often a limiting factor in populations. Deer from different summer ranges may share a common winter range where breeding typically occurs. This mixing of genes on winter ranges contributes to genetically diverse and healthy populations. As knowledge of mule deer migration patterns has increased over many decades, more refined terms such as Critical Winter Range, Key Winter Range, Critical Summer Range, holding area, fawning area, and migration corridor have been defined to describe the landscape for deer.

Critical Winter Range can include corridors essential for movement, staging areas where deer temporarily congregate, habitats containing high-quality winter forage, or other elements important to the survival of deer in winter. The project area does not overlap with any Critical Winter Range areas for mule deer. The City of Susanville is surrounded by several known Critical Winter Range areas (CNDDDB 2023). The nearest to the project area is 0.75 miles north of the mining boundary near Antelope Mountain and the Tunnison Mountain Wilderness Study Area, which encompasses nearly 20,000 acres of mountains and canyons that would not be disturbed by project activities. Existing agricultural developments and natural topography separate the mine site from this Critical Winter Range for mule deer.

5.5 Local Policies and Ordinances

The Lassen County General Plan Policy states that Lassen County shall conserve and enhance the wildlife and fisheries of the area and preserve and restore the ecological, recreational, and aesthetic benefits of the Susan River and its tributaries. It also states that land identified as conservation shall be zoned “O-S” (Open Space) or “F-R” (Forest Recreation), and all projects shall be reviewed for their possible adverse effects to fish and wildlife habitats.

According to the General Plan, the designated land use for the mine area is “Urban Reserve.” The land south of the property supports a slough that is designated as “conservation land”; no disturbance to this area would occur. The project would align with the fish and wildlife policies laid out in the Lassen County General Plan. No impact.

5.6 Conservation Plans

The project site does not overlap with any known Habitat Conservation Plan (HCP). No impact.

6.0 POTENTIAL IMPACTS DISCUSSION

6.1 Thresholds of Significance

The thresholds for determining the significance of impacts for this analysis are based on the environmental checklist in the 2023 CEQA Guidelines. The proposed project would result in a significant impact related to biological resources if it were to do any of the following:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS;
- Have a substantial adverse effect on State or federally protected wetlands (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted HCP, natural community conservation plan, or other approved local, regional, or state HCP.

6.2 Direct Impacts

6.2.1 Birds

The potentially occurring special-status birds are the greater sandhill crane (*Grus canadensis tabida*) and prairie falcon (*Falco mexicanus*). Many passerine (aka songbirds) are likely also to occur. Direct impacts that could occur to nesting bird species include disrupting nesting birds or disturbing active nests during onsite construction, ground disturbance, or vegetation removal. Bird nest abandonment can occur because of continued exposure to increased noise or vibrations from construction or mining activities. Direct impacts to nesting passerines would be reduced to a **less-than-significant** level through implementation of the measures outlined in Section 7.4.

The site lacks nesting habitat for prairie falcons. There is potential for a falcon to fly overhead, but falcons or their nests would not be directly impacted by project activities.

Sandhill cranes are sensitive to human disturbance. The standard nest buffer for sandhill cranes is 500 feet (0.09 miles), though high-disturbance projects require a 0.25-mile buffer (PG&E 2014). The proposed mine site is 1,320 feet (0.25 miles) away from the potential nesting habitat.

Due to the distance between the potential sandhill crane habitat and the mining area, it is possible for cranes to fly overhead, but it is unlikely that a crane would enter the project area.

No direct impact to the greater sandhill crane (*Grus canadensis tabida*) and prairie falcon (*Falco mexicanus*) would occur. Indirect impacts to sandhill cranes are discussed in Section 6.3.

6.2.2 Mammals

Potentially occurring special-status mammals are American badger (*Taxidea taxus*), North American porcupine (*Erethizon dorsatum*), and gray wolf (*Canis lupus*). The site itself lacks suitable habitats for these species. The site provides seasonal habitat for mule deer and pronghorn.

Badgers require friable soils, which do not occur onsite. Porcupines tend to inhabit mixed hardwood-conifer and wet meadow communities, which do not occur onsite. Due to the large home ranges of badgers and porcupines and the presence of suitable habitat in the open space surrounding the site, there is potential for dispersing mammals to enter the project area. Opportunistic foraging by animals dispersing to potential habitats in the surrounding landscape could occur. These species are mostly nocturnal, and they have significantly larger home ranges in the summer season, so the likelihood of their presence onsite is greatest during the nighttime between June and September. The mine proposes to operate during nighttime hours for a maximum of 150 days per year, which may take place when badgers or porcupines are dispersing and foraging within their home ranges. Individuals in the area will likely avoid operations and utilize the surrounding open space, both on the property and on adjacent properties, to disperse to areas with suitable habitat. **Less-than-significant impacts** to American badger (*Taxidea taxus*) and North American porcupine (*Erethizon dorsatum*) will occur.

The project location is within the estimated territory of the Tunnison Pack of gray wolves (*Canis lupus*). The pack is newly recognized and has only been in the area since the fall of 2024. None of the wolves within the pack has been collared, so their territory is only estimated. Gray wolves have a large territorial range and will venture outside of it as they hunt for food and suitable habitat. Only two wolves are currently known to make up the pack. The site lacks the characteristics needed to be utilized for dens or as a rendezvous point. There is the potential for wolves to enter the project limits, but it is unlikely they would maintain a presence within the site. Wolves will likely avoid the project in favor of the surrounding land. **Less-than-significant impacts** to the gray wolf (*Canis lupus*) will occur.

American pronghorn and mule deer are known to inhabit a portion of the site during the winter season (Figure 6). These species are both ungulates that require sagebrush community vegetation and migrate between summer and winter grounds. Direct impacts that could occur to these species from the proposed project include injury or mortality of an animal. This can occur from direct contact with mine operations, vehicle collisions, or entrapment onsite due to impassable fencing.

Operation areas will be concentrated in the southern portion of the site, such that the access road distance is minimized within the pronghorn habitat. As with any local wildlife, there is a small chance of encountering an animal onsite. Traffic onsite will adhere to measures listed in

Section 7.2, which require maximum speed limits onsite of fifteen miles per hour when pronghorn could potentially be present (fall through early spring).

Pronghorn occupy their winter grounds starting in the fall and remain in these low-elevation areas until spring migration occurs, typically in April. Operations would be limited during the winter months because of snowpack and wet weather, but may still overlap with pronghorn presence in their winter grounds. The site occupies a small percentage of the winter grounds in the area; the majority of winter grounds occur on Bureau of Land Management (BLM) land. Therefore, pronghorn are likely to avoid the site during operations. Measures listed in Section 7.2 would minimize direct impacts to pronghorn to a **less-than-significant** level. Indirect impacts from habitat loss are discussed in Section 6.2.

Pronghorn are susceptible to entrapment or injury from fencing because they are poorly adapted to jumping over obstacles. Juvenile pronghorn and mule deer can be killed from becoming entangled in fencing, or, most commonly, from starving due to being separated from their mother by an impassable fence line (Hanophy, 2009). With the implementation of the measures listed in Section 7.2, there would be no direct impacts from fencing.

The project site does not bisect any migratory routes for mule deer. The project will have no impact on the mule deer Critical Winter Range, migratory routes, fawning grounds, or other mule deer habitat. Because of the proximity to the mine site and the migratory nature of mule deer, there is low potential for mule deer to disperse through the site. Deer may forage the surrounding landscape but would likely avoid disturbed areas and any active mining operations. Impacts to individual mule deer would be **less than significant**.

Based on the life history of the long-eared myotis (*Myotis evotis*), pregnant females have the potential to occur in boulder fields throughout the site (Figure 5). While these do not constitute maternity roosts, the specialty roost type selected by pregnant females should be considered since impacts to a pregnant female could potentially have a significant impact on the local population. Only pregnant females are known to select horizontal rock crevices. Following the birth of their young in spring/early summer, long-eared myotis will likely select areas offsite with vertical rockfaces and water adjacency, as that is a preferable habitat for raising their young. In order to avoid impacts to pregnant long-eared myotis, any site preparation will occur between early summer and winter when pregnant females are unlikely to occur onsite. Boulders in “myotis habitat” areas, shown in Figure 5, will be removed from the proposed disturbance areas between July and November of each year and stockpiled near processing areas. As a result, the areas of ground disturbance would be unsuitable habitat for pregnant females that may migrate to the site following winter hibernation; therefore, any bats would be humanely excluded from the mine area. Stockpiling rocks will alter the thermal and protective quality of the rocks such that bats are unlikely to roost in the aboveground stockpiles. Direct impacts to bat nursery sites and pregnant bats will be **less than significant** with the implementation of the measures listed in Section 7.8. Indirect impacts to long long-eared myotis are discussed in Section 6.2.

6.2.3 Invertebrates

The potentially occurring invertebrate species onsite are the monarch butterfly, Morrison’s bumble bee, and Suckley’s cuckoo bumble bee.

The obligate host plant for monarch butterflies, milkweed, was observed onsite growing along the margins of a stock pond during surveys. The observed milkweed would not be disturbed since the stock pond is outside of the proposed mining area. Ground disturbance onsite could result in the removal of milkweed (*Asclepias* sp.). Implementation of measures listed in Section 7.0 would minimize direct impacts to monarch butterflies to a **less-than-significant** level.

According to the USFWS *Conservation Management Guidelines for the Rusty Patched Bumble Bee*, forest management during the species' active season (mid-March through mid-October) may be less likely to impact bumble bee species directly if conducted once floral resources have drawn the bees out into open foraging and nesting areas. This is generally when bumble bees would spend most of the daytime foraging and would be least likely to be impacted by vegetation clearing.

The measures listed in Section 7.0. require that surveys be completed for Morrison's bumble bees and Suckley's cuckoo bumble bee, and, if either of the species is present, then intensive searches for bumble bee nests would be completed. Any special status bumble bee nests would be avoided through non-disturbance buffers, or agency consultation would occur. Mining would temporarily remove potential habitat; however, burrows from other common wildlife, such as ground squirrels, may occur within the quarry and could continue to provide habitat for bee colonies during the life of the mine. Revegetation proposes to plant grasses and alfalfa to meet the end use of cattle grazing land. Alfalfa generally flowers between July and August. Therefore, it would provide a source of nectar for bees (Xerces Society, 2018). Overall, the project would result in temporary loss of foraging habitat, but nesting and overwintering habitat would remain onsite throughout the life of the mine. Because there are limited nectar sources currently onsite, the loss of foraging habitat would be less than significant. With the implementation of these measures, the potential for causing significant impacts through direct take or habitat modification would be avoided or minimized to a **less-than-significant** level.

6.2.4 Plants

The potentially occurring plant species onsite are Pulsifer's milk-vetch (*Astragalus pulsiferae* var. *pulsiferae*) and Susanville beardtongue (*Penstemon sudans*). Direct impacts to plants include the potential removal of individual plants during ground-disturbing activities. Mitigation Measure 7.6 states that preconstruction surveys will be completed prior to any vegetation disturbance onsite. Implementation of the measures listed in Section 7.0 would minimize direct impacts to these plant species to a **less-than-significant** level.

6.3 Indirect Impacts

Indirect impacts are those impacts caused by the action but that occur later in time or farther removed in distance but are still reasonably foreseeable. The proposed mine would have indirect and potentially significant impacts to birds, rare plants, and mammals due to the loss of habitat from the conversion of the habitat onsite to rangeland.

6.3.1 Birds

Indirect impacts that could occur to these species from the proposed Project include loss of available nesting and foraging habitat that would result from human presence, vegetation

removal, or noise and light pollution (during nighttime operations) from the mine site. In general, these factors can influence the selection of habitat, which can negatively impact population dynamics over time for avian species. While site reclamation involves revegetation of native grasses and shrubs, no trees will be reclaimed. Therefore, the project would result in the permanent loss of potential nesting and foraging habitat for many songbird species, which would be **potentially significant**.

Individual prairie falcons foraging in the area will likely select alternative habitat within their home range that surrounds the operations. Due to the potential project impacts to songbirds, which are an important food source for prairie falcons, the removal of habitat would potentially result in loss of foraging opportunities for prairie falcons. Because the project footprint is small compared to the expansive home range of prairie falcons, indirect impacts will be **less than significant**.

The access road, asphalt plant, lime plant, and stockpiles located at the southern end of the property would result in increased human presence approximately 0.25 miles away from potential sandhill crane habitat. During long-term operations, the processing facilities (asphalt plant, lime plant, and stockpiles) will be located within the mined Phase 1 area, such that these operations will be located below-grade. Therefore, processing noise will be contained due to the topography surrounding the Phase 1 area, which will reduce the noise pollution to offsite receptors. It is anticipated that the final grade will be achieved within the first year of mining in the Phase 1 area. Therefore, indirect impacts to habitat in Jensen and Brockman sloughs caused by human presence and processing noise levels would be reduced during the life of the mine once the final grade is achieved in the Phase 1 area.

Indirect impacts to the greater sandhill crane (*Grus canadensis tabida*) are possible during blasting and processing until the final grade is achieved. Current topography is sloped toward the slough, such that noise from processing and blasting could cause nest failure if noise levels increase while sandhill cranes are nesting in the slough. The initial ground disturbance to create the excavated area for facilities would increase noise levels onsite and potentially in the surrounding 0.25 miles where the slough is located. A Noise and Vibration Assessment was prepared for the project by Bollard Acoustical Consultants, Inc. The Assessment included long-term baseline noise measurements in the project vicinity as well as noise estimates of proposed onsite operations within the project vicinity. Assuming the existing noise levels at the slough match the existing noise levels at equidistant long-term noise measurement locations, daytime hourly average noise levels range between 44 and 53 dB Leq and are estimated to be up to 65 dB Leq at the slough during project operations. Current maximum daytime noise levels are 57 to 68 dB and are estimated to be up to 75 dB at the slough during project operations. The existing and estimated nighttime hourly noise levels are summarized in Table 2.

While no noise significance thresholds exist for sandhill cranes, the species is highly sensitive to noise and human disturbance while nesting. The increased noise levels shown in Table 2 could more than double the noise exposure at the slough during periods of maximum noise generation.

	DNL (day-night average)	Leq (hourly average)	Lmax (hourly max)	Leq (hourly average)	Lmax (hourly max)
		Daytime		Nighttime	
Existing ¹	52-58	44-53	57-68	46-52	56-67
Project	65-70	60-65	70-75	60-65	70-75
Increase	18	11	18	9	19

Notes: 1 Assuming existing noise levels at the slough are similar to those at the offsite long-term noise monitoring locations.

If sandhill cranes begin nesting in the northern portion of the slough prior to operations beginning onsite, then the noise disturbance generated by mining activities could potentially cause nest abandonment due to increased noise levels and human presence. If mining begins prior to nesting season for sandhill cranes, then birds may either choose to nest in the slough despite noise levels or may select another site, such as the historic nesting site at the southern end of the slough, which is farther away from the mine. The measures listed in Section 7.0 will reduce noise impacts from the initial excavation/construction of the facilities area to nesting sandhill cranes to a **less-than-significant** level.

6.3.2 Mammals

Indirect impacts that could occur from the proposed project include the loss of foraging habitat or reproductive sites within an animal's home range and changes to migration behaviors that would cause disturbance to critical life history stages.

American badgers are moderately tolerant of human presence, but much of their habitat has been affected by development and the associated high levels of human activity, along with reduced prey availability. The site is not likely to provide denning habitat due to the lack of deep friable soils. However, there is potential foraging habitat onsite for a variety of mammalian species, including badgers. Badger prey species include gophers and ground squirrels. These species are tolerant of the types of human presence and ground disturbance that are typical of a mine site, so mine activities are not expected to reduce prey availability onsite during the life of the mine. In the case that badgers utilize the site for foraging, the impacts would be **less than significant**.

In general, impacts to large mammal populations could result if a disturbance alters the behavior along a sensitive migratory corridor or within kidding grounds. Such a disturbance could result from increased noise, light, and human disturbance during mine operations, as well as the potential obstacles created by impassable fencing. The proposed operations area within the Project site is located within the American pronghorn winter grounds (Figure 6). Historical data show that the Project site includes roughly 385 acres of the pronghorn winter range. The site does not overlap with the Critical Winter Range for mule deer. Because winter habitat requirements are met by conditions onsite for both pronghorn and mule deer, the mine would result in the loss of winter foraging opportunities for both species.

Prominent pronghorn migration corridors are found six miles north of the project area, with spans of winter grounds between the project site and the migration corridor (Figure 6). The

surrounding BLM land would foreseeably remain available to mule deer and pronghorn throughout the life of the mine. Therefore, pronghorn migration would not be affected. Pronghorn would likely avoid the project site when it is operating while remaining within moderately appropriate habitat through winter, but this means they would be restricted from a portion of their current winter range. The level of significance associated with this habitat loss is limited to the lifetime of the mine. The proposed end use will include planting pasture bunchgrasses and alfalfa throughout the site. Reclamation will also include planting a small area with antelope bitterbrush and trees along the edges of a pond. Revegetation, paired with responsible grazing practices including seasonal exclusion of cattle from portions of the mule deer winter range area, will enhance the quality of grazing land as intended for reclamation end use, and will also continue to provide nutritious forage for pronghorn and mule deer in perpetuity following the closure of the mine, such that impacts to winter range would be **less than significant**.

Since pronghorn and mule deer will likely avoid the project site, this could have a slight effect on the gray wolf population. Both ungulates are hunted by wolves and are understood to be important prey species. Wolves will be able to hunt the pronghorn and mule deer despite the proposed mine operations in the expansive habitat located north and east of the mine site.

Potential day roost habitat for pregnant long-eared myotis would be removed by mining activities in a manner to avoid impacts to bat development sites. Mining will occur in phases such that habitat loss each year would include a small percentage compared to the surrounding landscape. Long-eared myotis switch roosts frequently, and from year to year, any bats in the area would likely select roost habitat in the remaining boulder fields onsite and in the surrounding landscape. Therefore, removal of boulder fields will not significantly reduce the habitat availability for pregnant bats.

In summary, indirect impacts to American badger (*Taxidea taxus*), long-eared myotis (*Myotis evotis*), gray wolf (*Canis lupus*), North American porcupine (*Erethizon dorsatum*), and pronghorn will be **less than significant**.

6.3.3 Invertebrates

The proposed mining and associated building construction would result in loss of vegetation throughout the mine area; however, no milkweed (*Asclepias* sp.) was observed within the proposed disturbed areas. Known populations of milkweed located at a stock pond on the property will be preserved, as they are located outside of the mine area. It is not anticipated that the monarch butterfly would be impacted. Indirect impacts to milkweed and monarch butterflies would have **no impact**.

The removal of vegetation would reduce the food availability for bumble bees. Ground disturbance associated with the project would cause loss of forbs that provide food for bees and would remove grasses that can provide nesting habitat for bumble bees. The area of foraging habitat loss is relatively small compared to the public land surrounding the site. Therefore, the loss of foraging habitat is not a significant impact to the species' survival in the area. The project is not likely to cause a decrease in nesting habitat onsite since common fossorial rodents, such as ground squirrels, are tolerant of human development and routinely inhabit disturbed areas.

Bumble bees will readily occupy new rodent burrows due to their fluid migratory, colony, and residential nature. Impacts to foraging and nesting habitat for bumble bees are **less than significant**.

6.3.4 Plants

Indirect impacts to plants in undisturbed habitats surrounding the mined area could occur as a result of ground-disturbing activities, causing dust that could be deposited onto leaves and cause physiological harm to the plants, including decreased gas exchange and, therefore, inhibited photosynthesis. Dust will not leave the site because a water truck will be used to control fugitive dust per the Mining and Reclamation Plan.

Mining would remove soils that provide suitable habitat for Pulsifer's milk-vetch (*Astragalus pulsiferae* var. *pulsiferae*) and Susanville beardtongue (*Penstemon sudans*). Susanville beardtongue is ranked 4.3 by the CRPR, which means it is "limited in distribution." However, this species is locally abundant. According to the CNDDDB, there are more than twenty known occurrences of this species within five miles of the project area. Susanville beardtongue prefers rocky soils and has been observed quickly recruiting disturbed areas on mined lands (pers. observation 2021). Therefore, it is highly likely that the species would ultimately continue to provide habitat for Susanville beardtongue. Mining would result in less-than-significant impacts to Susanville beardtongue.

Pulsifer's milk-vetch is listed by the CRPR as 1B.2, which means it is "rare, threatened, or endangered in California and elsewhere." Pulsifer's milk-vetch occurs throughout Lassen County, and its range extends into Nevada, where it is listed as "sensitive." According to the CNDDDB, there is one occurrence within five miles of the project site, and most occurrences of Pulsifer's milk-vetch are concentrated in southern Lassen County. All occurrences are above 4300 feet in elevation (CNDDDB, 2023; Bruce, 2012), which means that the mine site occurs at the low end of the documented elevation range of the species. As such, habitat in southern Lassen County appears to provide a more suitable habitat. Any plants that occur onsite would represent a small proportion of the species within their range. Any indirect impacts from project activities would be **less than significant** and would not lead to a decline of the species as a whole.

7.0 BIOLOGICAL CONSERVATION MEASURES

7.1 General Wildlife

- Impacts of nighttime lighting shall be minimized by using shielded directional lighting that is pointed downward, thereby avoiding illumination to adjacent natural areas and the night sky.
- Equipment should be visually inspected each day for the presence of wildlife to prevent injury or harm to an animal.
- Wildlife-friendly slopes of 2:1 or less shall be maintained on the north and east mine boundaries to prevent injury or entrapment of wildlife, wherever feasible. If slopes greater than 2:1 exist, then wildlife-friendly fencing shall be installed at the top of slope to encourage wildlife away from the edge.
- USFWS or CDFW should be contacted immediately in the event that a State or federally listed species is ever observed on site.

7.2 American Pronghorn and Mule Deer

- A maximum speed limit of fifteen miles per hour shall be implemented onsite when pronghorn could potentially be present (fall through early spring). Speed limits signs shall be posted along access roads. If a pronghorn is present within a roadway anywhere onsite, then vehicles shall stop until the animal(s) are no longer on the path of travel. If the presence of vehicles causes pronghorn to move toward Skyline Road, then vehicles shall remain stopped until the pronghorn are at least 50 feet away from the road to avoid driving pronghorn toward higher traffic areas.
- Following the reclamation of the site, cattle exclusion fencing shall be installed at the Phase 1 area boundary to prohibit cattle grazing in this area during the winter months (November to April) when mule deer or pronghorn may be present.
- Any new fencing installed onsite shall follow deer-friendly fencing specifications to preserve habitat availability for American pronghorn, mule deer, and other migratory wildlife. Specifications for such fencing include the use of barbed wire (woven hog-wire is prohibited) with wire spacing as follows:
 - The first (bottom) strand should be eighteen inches above the ground, not barbed wire;
 - The second strand should be eight inches above the first strand;
 - The third strand should be ten inches above the second strand;
 - An optional fourth strand can be twelve inches above the third strand.

7.3 Greater Sandhill Crane

- The mine site will be kept clean and free of loose garbage, food scraps, or any materials that could attract raccoons, skunks, ravens, or crows, as these are known predators of crane nests.
- Until the final grade in the Phase 1 area is achieved, blasting and processing will adhere to one of the following:

- Operations should be initiated outside of the sandhill crane nesting season (April to August) to avoid disturbing active sandhill crane nests.
- If blasting or processing must begin during the sandhill crane nesting season, or if operations cease for more than 14 days and then reinitiate within the sandhill crane nesting season, then a qualified biologist shall complete a survey to determine if any sandhill cranes are nesting within 0.25 miles south of the project area boundary. The survey can be supplemented by using binoculars to view all sandhill crane habitat as thoroughly as possible without disturbing any potential nests. If nesting sandhill cranes are found, then one of the following shall occur:
 - A. Operations noise levels will be reduced to less than 10 dB above ambient at the slough, or
 - B. A qualified biologist shall monitor the nest on the first day of activities to determine if the nesting cranes exhibit behavior that suggests they are disturbed by the activities. If operations appear to disturb the nesting cranes, then a buffer or other noise-reducing activities shall be implemented. The distance of the buffer will be based on the location of the nest and onsite conditions, such as topography and existing vegetation. The buffer shall remain in place until the chicks have fledged, or the nest is deemed to be no longer active by the qualified biologist.

7.4 Nesting Birds and Raptors

- If vegetation removal will occur during the bird nesting season (February 1 to August 31), a qualified biologist shall conduct a nesting bird survey within seven days before construction activities. The survey area shall include the proposed disturbance area and the surrounding 500 feet. If nesting birds or raptors are found, CDFW will be consulted. An appropriate buffer based on species and conservation status will be placed around the nest until the young have fledged. If an appropriate buffer distance is not achievable, then alternate compliance measures may be implemented instead, such as noise attenuation measures or project activities monitoring by a qualified biologist until the nest is no longer active.

7.5 Streams and Wetlands

- A non-disturbance buffer of 175 feet or more shall be implemented around the stream onsite for any mining activities.
- Any work below the Ordinary High-Water Mark of a stream or within a wetland boundary shall acquire the necessary permits from regulatory agencies, including Army Corps of Engineers, the Regional Water Quality Control Board, and/or CDFW.
- The site will comply with stormwater Best Management Practices (BMPs) to ensure water quality is preserved.

7.6 Botanical Species

- Within the mine footprint: A protocol-level survey shall be completed by a qualified botanist or biologist for the potentially occurring special-status plant species Pulsifer's

milk-vetch (*Astragalus pulsiferae* var. *pulsiferae*) and Susanville beardtongue (*Penstemon sudans*) prior to each phase of ground disturbance, and prior to any other new ground disturbance, throughout the life of the mine. Surveys will be completed during the appropriate time of year when the target species are flowering: Pulsifer's milk-vetch flowers between May and August, and Susanville beardtongue flowers between June and July. The purpose of the surveys shall be to assess the presence or absence of the potentially occurring species. If none of the target species are found in the impact area or the surrounding 50-foot buffer, then no further mitigation measures shall apply. If a target species is found, then the location(s) will be mapped and the data submitted to the CNDDDB. Plants shall be avoided by implementing a non-disturbance buffer, or will otherwise be preserved through collecting seeds and spreading in a designated non-disturbance area onsite where habitat for the species occurs. The non-disturbance area shall be designated in consultation with CDFW.

- Within the utility corridor: If ground disturbance occurs within wetland habitat, then a protocol-level survey shall be completed by a qualified botanist or biologist for potentially occurring special-status plant species Sheldon's sedge (*Carex sheldonii*) and grass alisma (*Alisma gramineum*) prior to ground disturbance. The survey shall be completed between June and August when the species are flowering and identifiable. If neither of the target species is found in the impact area, then no further mitigation measures shall apply. If a target species is found, then the location(s) will be mapped and the data submitted to the CNDDDB. Plants shall be avoided by implementing a 25-foot non-disturbance buffer or will otherwise be preserved through collecting seeds and spreading in a designated non-disturbance area onsite where habitat for the species occurs in consultation with CDFW.
- To prevent the spread of invasive species, including medusahead and cheatgrass, equipment tracks that have come into contact with these species shall be thoroughly washed or otherwise cleaned of all vegetation materials prior to being removed from the site. No measure is required for vehicles that remain on access roads, processing areas, and parking lots.

7.7 Monarch Butterfly

- Initiation of vegetation removal would follow Recommended Management Timing, according to the Xerces Society's "*Managing for Monarchs in the West, Best Management Practices for Conserving the Monarch Butterfly and Its Habitat*," which states that new vegetation disturbance should occur between September 30 and June 1 annually when it is least likely to disturb monarch development. If vegetation disturbance occurs between June 1 and September 30, then a designated biologist should visually inspect each plant for the presence of eggs or larvae (caterpillars) prior to removal. No plants should be removed when monarch eggs or larvae are present.

7.8 Bumble Bees

- Surveys for Morrison's and Suckley's bumble bees should be performed by a qualified entomologist or biologist familiar with the species' behavior and life history sufficiently to determine the presence/absence of bumble bees. A visual survey shall be completed within one year prior to any new vegetation removal and/or grading. The survey should

be conducted during the active flight season (March 1 to September 1) when the species are most likely to be detected above the ground. If either bumble bee is observed onsite, then additional surveying shall be completed to attempt to determine if nests are present. If a bumble bee nest is located onsite, then a 25-foot non-disturbance buffer shall be implemented and consultation with CDFW shall occur to determine if a CESA Incidental Take Permit is required before disturbance within the buffer.

7.9 Long-Eared Myotis

- Initial disturbance of boulder fields shown in Figure 5 will occur when pregnant long-eared myotis females are least likely to occur (between July and November). Boulders will be removed from the boulder field and stockpiled in preparation of mining for the following year.

8.0 SUMMARY STATEMENT

While direct impacts to nesting birds would be reduced with mitigation, the project could result in **potentially significant** impacts to nesting birds resulting from habitat loss.

The project would result in **less than significant impacts with mitigation** to greater sandhill crane, monarch butterfly, long-eared myotis, special-status plant species, Morrison bumble bee, and Suckley's bumble bee, as well as streams and wetlands. The loss of 385 acres of winter foraging habitat for American pronghorn and mule deer would have temporary, potentially significant impacts. In the long term, these impacts would be mitigated through revegetation and responsible cattle management, such that foraging opportunities may be improved following mine closure. Therefore, reducing impacts to pronghorn and mule deer is dependent on the successful reclamation of the site.

The project would result in **less than significant** impacts to prairie falcon, American badger, North American porcupine, and gray wolf. The project would have **no impact** on any other potentially occurring species.

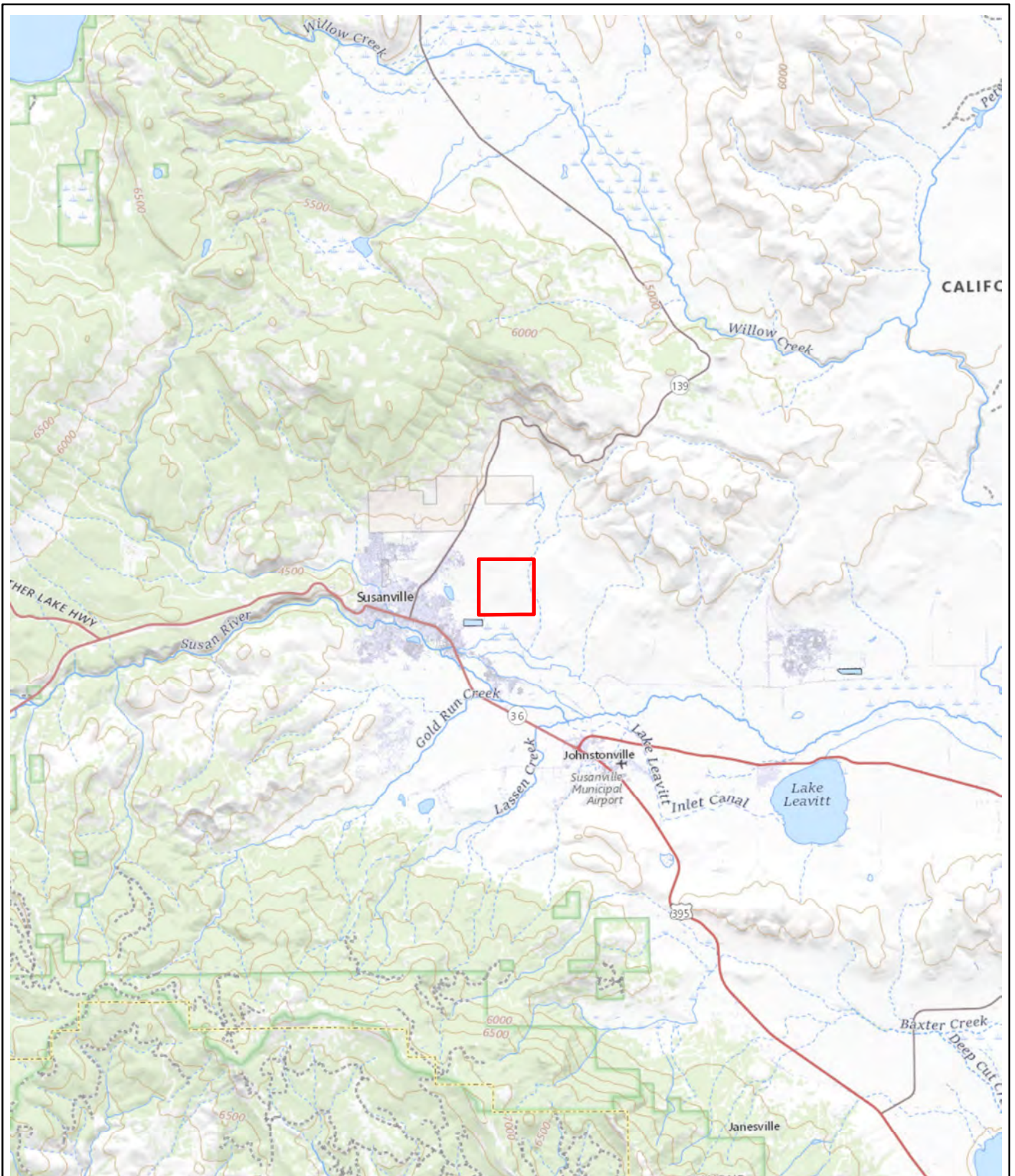
9.0 REFERENCES


- Appel, Cara. Zielinski, William. Schlexer, Fredrick. Callas, Richard. March 2017. Distribution of the North American Porcupine (*Erethizon dorsatum*) in Northern California. *Western Wildlife* 4:17-28. P. 23 – bat 4. Humboldt State University.
- Bodurtha. 1989. Timothy S. Bodurtha, James M. Peek, and Jerry L. Lauer. Mule deer habitat use related to succession in a bunchgrass community. *The Journal of Wildlife Management*, Vol. 53, No. 2. April 1989.
- Butte County. June 2019. Butte County Final Regional Conservation Plan: Covered Species Accounts. Pp. A-4-1 to A-4-6. Available:
http://www.buttehcp.com/documents/Documents/AFinal%20BRCP%20June%202019/15_App_A_Species_Accounts_Final_clean.pdf
- Baldwin, Bruce G. et al. (eds). 2012. *The Jepson Manual Vascular Plants of California*, 2nd Edition. University of California Press, Berkeley.
- California Department of Fish and Wildlife (CDFW). California Interagency Wildlife Task Group. 2014. CWHR version 9.0 personal computer program. Sacramento, CA.
- CDFW. 2023. Pronghorn Migration Corridors - Lassen - 2014-2016 [ds2933]. BIOS6 Application. Accessed April 2023.
- Calflora. Information on California plants for education, research and conservation, with data contributed by public and private institutions and individuals, including the Consortium of California Herbaria. [web application]. 2019. Berkeley, California.
<https://www.calflora.org/> (Accessed: Aug 08, 2019).
- California Native Plant Society. 2015. Inventory of rare and endangered plants (online edition, v8- 02). California Native Plant Society, Sacramento, CA.
<http://www.rareplants.cnps.org/> (accessed August 2015).
- Chruszcz, B., R. Barclay. 2002. Thermoregulatory ecology of a solitary bat, *Myotis evotis*, roosting in rock crevices. *Functional Ecology*, 16: 18-26.
- DeBecker, S. and A. Sweet. 1988. Crosswalk between WHR and California vegetation classifications. Pages 21-39 in: K.E. Mayer, and W.F. Laudenslayer, eds. 1988. *A Guide to Wildlife Habitats of California*. State of California, The Resources Agency, Department of Forestry and Fire Protection, Sacramento, California.
- Duquette, Jared. Hudgens, Brian. Garcelon, David K. 2015. Assessing Pronghorn Distribution, Movement, and Habitat Use in Northeastern California: Annual Report Summary 2015. Institute for Wildlife Studies. http://www.iws.org/species_pronghorn.html
- Hanophy, W. 2009. *Fencing with Wildlife in Mind*. Colorado Parks and Wildlife, Denver, CO. 36 pp

- Hatfield, R., Jepsen, S., Thorp, R., Richardson, L. & Colla, S. 2014. *Bombus morrisoni*. The IUCN Red List of Threatened Species 2014: Downloaded on 25 June 2020.
- Johnston, Dave. Tatarian, Greg. Pierson, Elizabeth. Trapp, Gene. 2004. California Bat Mitigation Techniques, Solutions, and Effectiveness. Published December 29, 2004. HT Harvey & Associates.
- Littlefield, Carroll D. 1982. The Status and Distribution of Great Sandhill Cranes in California, 1981. California Department of Fish and [Game] Wildlife Management Branch. Accessed June 2020.
- Manning, R. 1993. Systematics and evolutionary relationships for the long-eared myotis, *Myotis evotis* (Chiroptera: vespertilionidae). *The Museum*, 37: 1-58.
- Mule Deer Working Group. 2004. North American Mule Deer Conservation Plan. Western Association of Fish and Wildlife Agencies.
- Northwest Power and Conservation Council. May 2004. Lower Columbia Salmon and Steelhead Recovery and Subbasin Plan: Volume III, chapter 14: Sandhill crane. Lower Columbia Fish Recovery Board.
- Pacific Gas and Electric (PG&E). 2014. Nesting Birds: Species-Specific Buffers for PG&E Activities.
- Sawyer, H. & Kauffman, M. J. 2011. Stopover ecology of a migratory ungulate. *Journal of Animal Ecology* 80, 1078-1087, doi:10.1111/j.1365-2656.2011.01845.x.
- Shuford, W. D., and Gardali, T., editors. 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. *Studies of Western Birds* 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento. Accessed on July 17 and July 24, 2019.
- Snider, E. Apple. Cryan, Paul M. Wilson, Kenneth R. Roost selection by western long-eared myotis (*Myotis evotis*) in burned and unburned piñon-juniper woodlands of southwestern Colorado, *Journal of Mammalogy*, Volume 94, Issue 3, 11 June 2013, Pages 640–649
- Squires, John R.; Reynolds, Richard T. 1997. Northern goshawk (*Accipiter gentilis*), [Online]. Issue No. 298. In: Poole, A., ed. *The birds of North America Online*. Ithaca, NY: Cornell Lab of Ornithology (Producer). <http://bna.birds.cornell.edu/bna/species/298>
- Sullivan, Janet. 1996. *Taxidea taxus*. In: *Fire Effects Information System*, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: www.fs.fed.us/database/feis/animals/mammal/tata/all.html [2020, July 28].

- U.S. Forest Service. September 2008. Conservation Buffers: Design Guidelines for Buffers, Corridors, and Greenways: Buffers for noise control. US Forest Service Southern Research Station. https://www.fs.usda.gov/nac/buffers/guidelines/6_aesthetics/4.html
- Western Regional Climate Center, 2006. Cooperative Climatological Data Summaries: Redding Fire Station 4. Web. Accessed August 8, 2019. <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca7300>
- The Xerces Society for Invertebrate Conservation (Xerces Society). 2018. A Petition to the State of California Fish and Game Commission: The Crotch bumble bee (*Bombus crotchii*), Franklin's bumble bee (*Bombus franklini*), Suckley cuckoo bumble bee (*Bombus suckleyi*), and western bumble bee (*Bombus occidentalis occidentalis*) as Endangered under the California Endangered Species Act. Accessed July 28, 2020.
- Landscaping, Earth Berms and Sound Walls | eNoise Control. (n.d.). ENoiseControl. Retrieved November 15, 2022, from <https://www.enoisecontrol.com/landscaping-sound-wall-earth-berm-noise-ordinances/>
- Loft, Eric. 1998. Report to the Fish and Game Commission: An assessment of mule and black-tailed deer habitats and populations in California. California Department of Fish and Game Wildlife Management Division.
- Morrison's bumble bee. (n.d.). Washington Department of Fish & Wildlife. Retrieved November 15, 2022, from <https://wdfw.wa.gov/species-habitats/species/bombus-morrisoni>
- Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. A Manual of California Vegetation, Second Edition. California Native Plant Society, Sacramento. 1300 pp.
- Swarming bumblebees—Bumblebee Conservation Trust. (n.d.). Retrieved November 15, 2022, from <https://www.bumblebeeconservation.org/bee-faqs/swarming-bumblebees/>

Figures



 Approximate Parcel Boundary

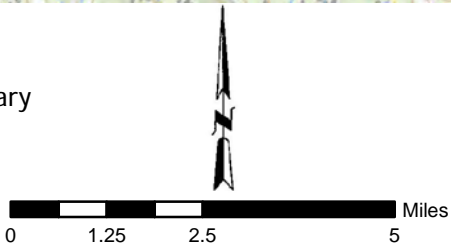
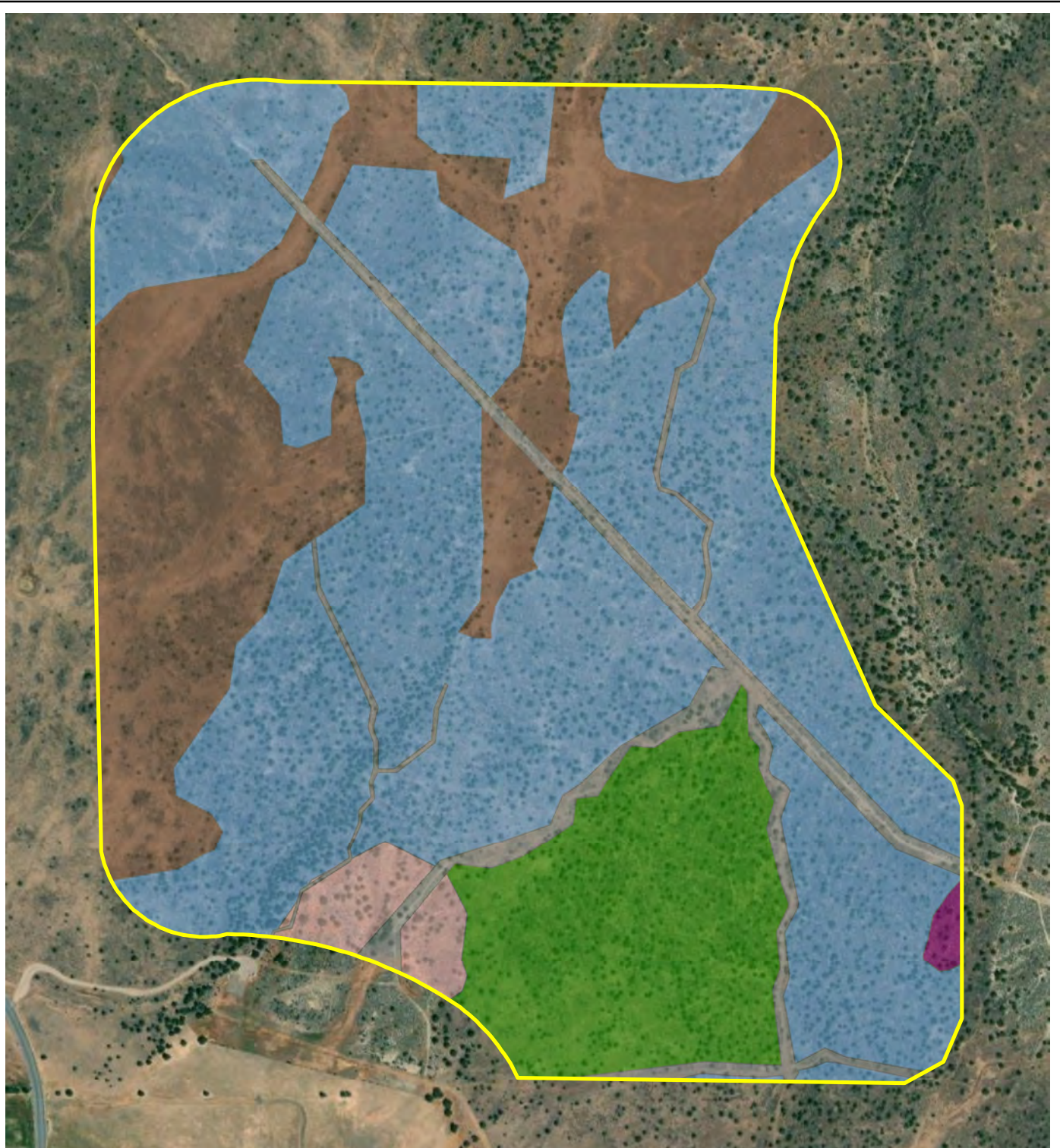






FIGURE 1
GENERAL SITE LOCATION
SKYLINE AGGREGATES
LASSEN COUNTY, CALIFORNIA





 Reclamation Boundary

 *Artemisia arbuscula* ssp. *arbuscula*
Shrubland Alliance

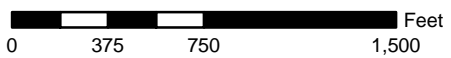
 *Artemisia tridentata* Shrubland Alliance

 *Bromus tectorum* - *Taeniatherum caput-medusae* Herbaceous Semi-Natural Alliance

 *Juniperus occidentalis* Woodland Alliance

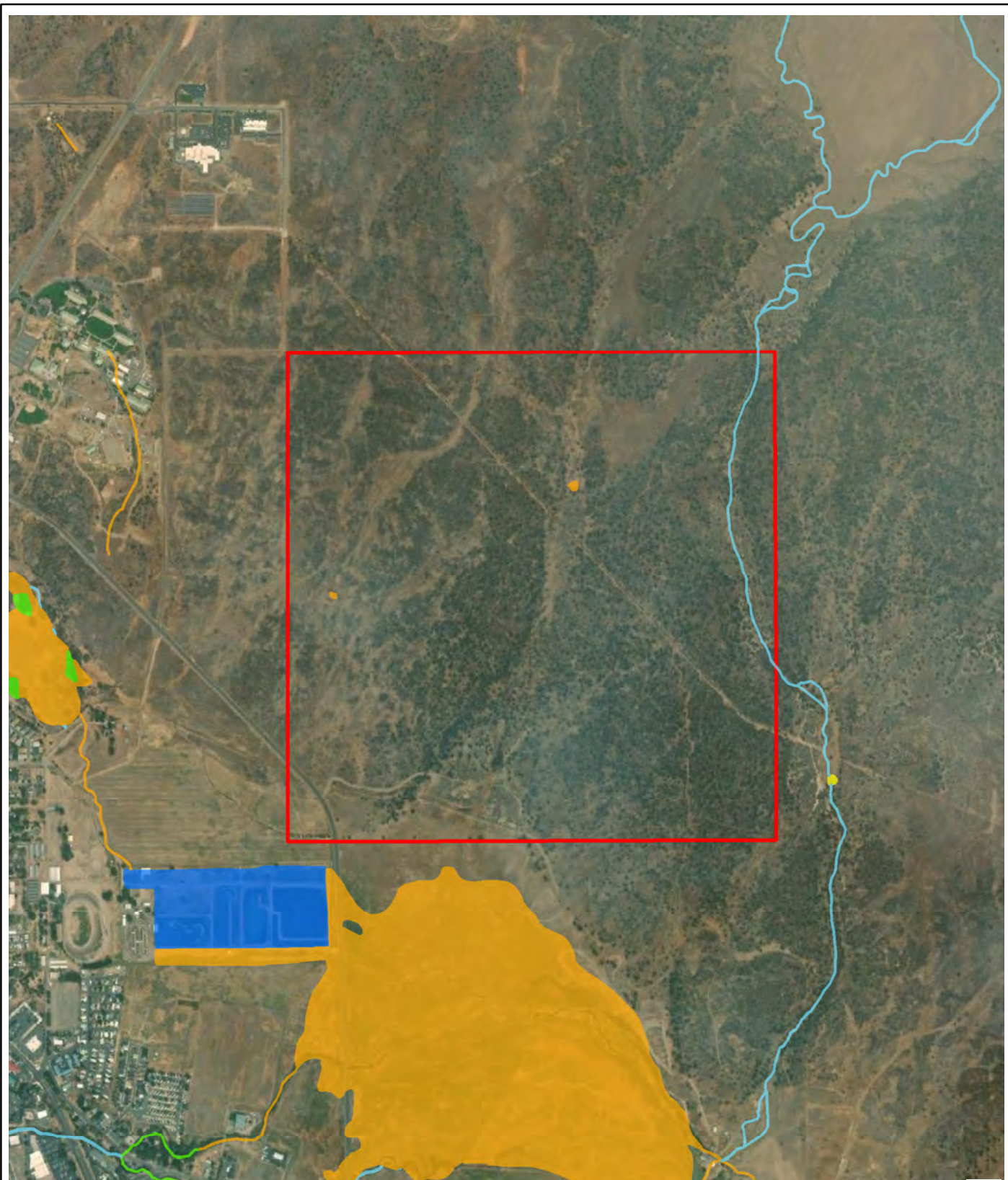
 *Purshia tridentata* - *Artemisia tridentata*
Shrubland Alliance

 Urban



SOURCE: DIGITALGLOBE 2018 AERIAL PHOTOGRAPH; USFS 2009

FIGURE 2
VEGETATION ALLIANCES
SKYLINE AGGREGATES
SUSANVILLE, CALIFORNIA



- | | |
|---|---|
|  Freshwater Emergent Wetland |  Lake |
|  Freshwater Forested/Shrub Wetland |  Riverine |
|  Freshwater Pond |  Approximate Parcel Boundary |

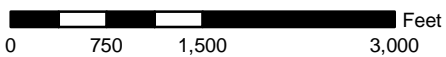
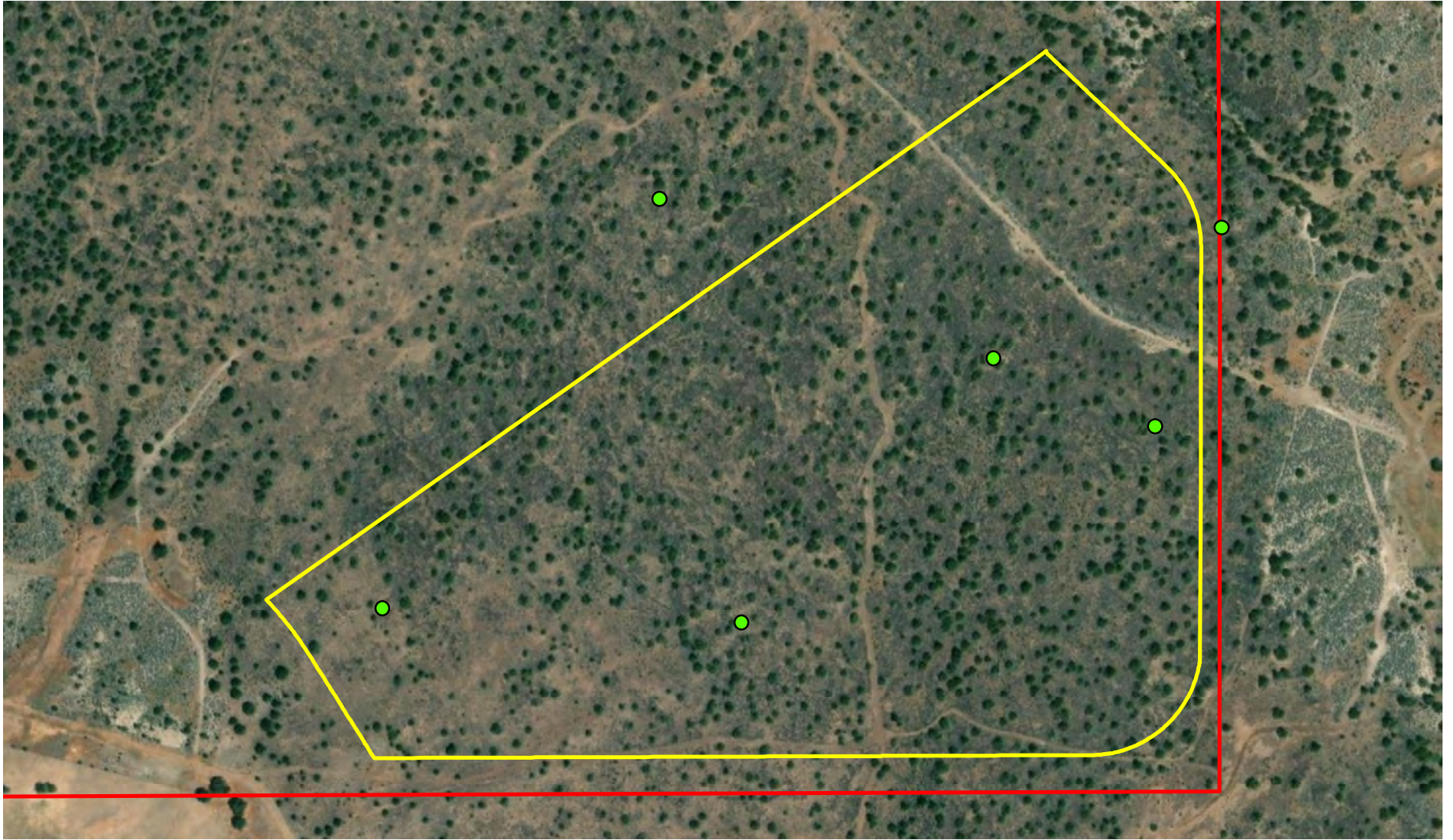


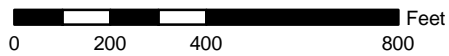
FIGURE 3
 NATIONAL WETLANDS INVENTORY
 SKYLINE AGGREGATES
 SUSANVILLE, CALIFORNIA



SOURCE: DIGITALGLOBE 2018 AERIAL PHOTOGRAPH; USFS 2009



- Avian Point Count
- Phase I Boundary
- Approximate Parcel Boundary






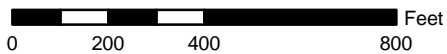
SOURCE: MAXAR 2022 AERIAL PHOTOGRAPH

P:\GIS\71305\Skyline\Figures\BioReport\71305_PhaseI_PointCount.mxd

FIGURE 4
AVIAN POINT COUNT
SKYLINE AGGREGATES
SUSANVILLE, CALIFORNIA



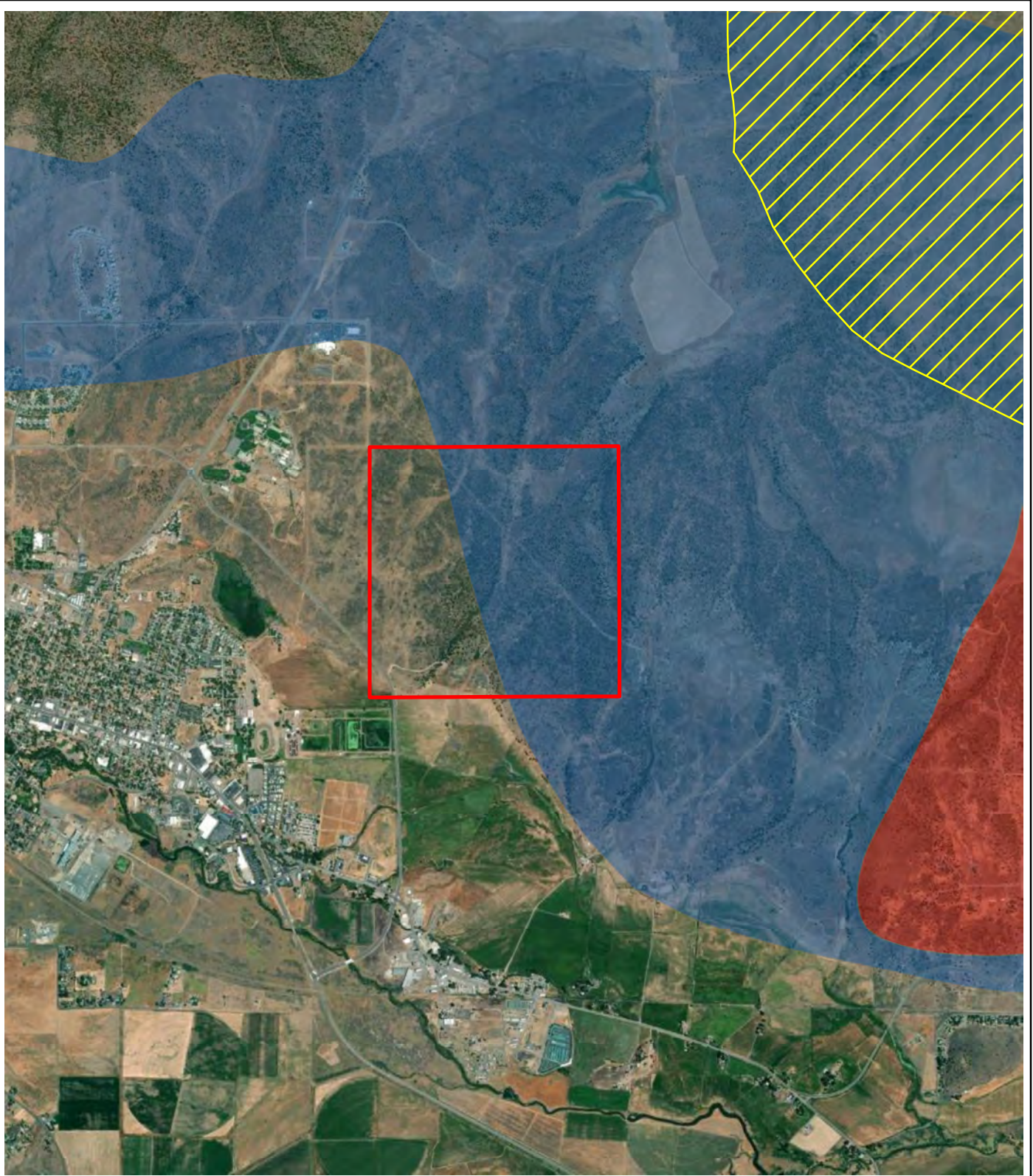
-  Myotis Habitat Location
-  Phase I Boundary
-  Approximate Parcel Boundary







SOURCE: MAXAR 2022 AERIAL PHOTOGRAPH

P:\GIS\71305\Skyline\Figures\BioReport\71305_PhaseI_Myotis.mxd

FIGURE 5
MYOTIS HABITAT
SKYLINE AGGREGATES
SUSANVILLE, CALIFORNIA



-  Approximate Parcel Boundary
-  Deer Critical Winter Range
-  Pronghorn Antelope Kidding Grounds
-  Pronghorn Antelope Winter Range

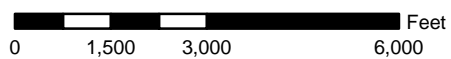
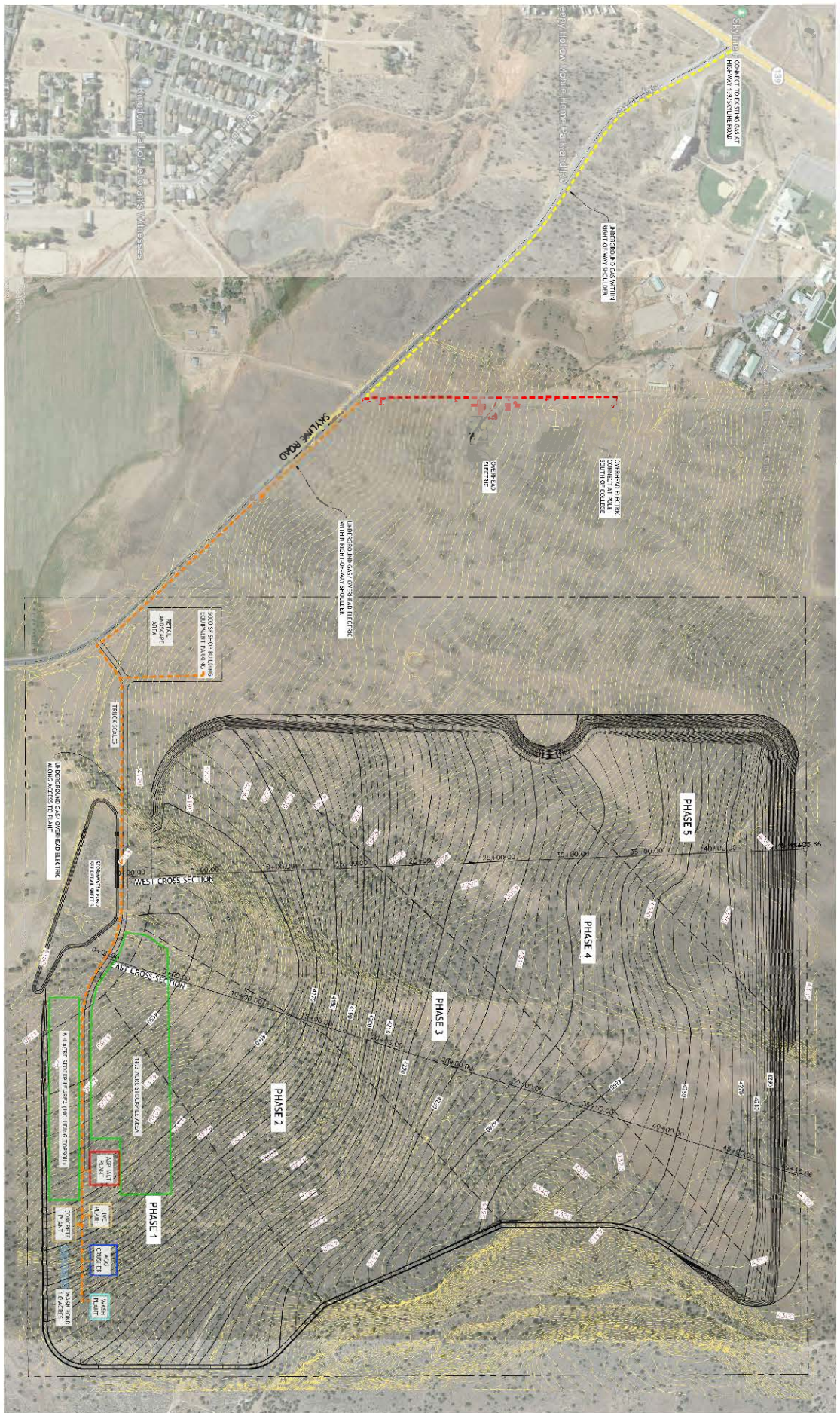


FIGURE 6
 DEER AND ANTELOPE HABITAT
 SKYLINE AGGREGATES
 SUSANVILLE, CALIFORNIA

SOURCE: MAXAR 2022 AERIAL PHOTOGRAPH; CDFW 2017



REGISTERED PROFESSIONAL ENGINEER
 STATE OF CALIFORNIA
 CIVIL
 No. 45789
 No. 9080
 VALUE:
 39,854,900 CV

FIGURE 3-14
 DATE: 01/20/2024
 TIME: 11:00 AM

SKYLINE QUARRY
 SITE PLAN / FINAL CONTOURS
 HAT CREEK CONSTRUCTION & MATERIALS
 SUSANVILLE, CALIFORNIA

200%					
50%					
20%					
10%					
5%					
2.5%					

VESTRA
 5300 AVIATION DRIVE ~ REDDING, CA 96002

www.vestra.com
 (530) 223-2585
 FAX (530) 223-1145

NO COPY SCALES
 ALL DIMENSIONS ON
 ORIGINAL DRAWINGS
 1" NOT ONE INCH ON
 THIS SHEET ADJUST
 SCALES ACCORDINGLY



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Susanville Area, Parts of Lassen and Plumas Counties, California



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Preface	2
How Soil Surveys Are Made	5
Soil Map	8
Soil Map.....	9
Legend.....	10
Map Unit Legend.....	11
Map Unit Descriptions.....	11
Susanville Area, Parts of Lassen and Plumas Counties, California.....	13
179—Devada-Rock outcrop association, 2 to 50 percent slopes.....	13
242—Horsecamp cobbly silty clay, 2 to 9 percent slopes.....	14
265—Lakeview loam, warm, 0 to 2 percent slopes.....	16
357—Searles-Devada-Rubble land association, 30 to 50 percent slopes..	18
360—Searles-Orhood-Devada association, 5 to 30 percent slopes.....	20
365—Springmeyer sandy loam, 0 to 5 percent slopes.....	24
388—Tunnison very cobbly clay, 2 to 9 percent slopes.....	25
390—Tunnison-Devada association, 2 to 9 percent slopes.....	27
References	29

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

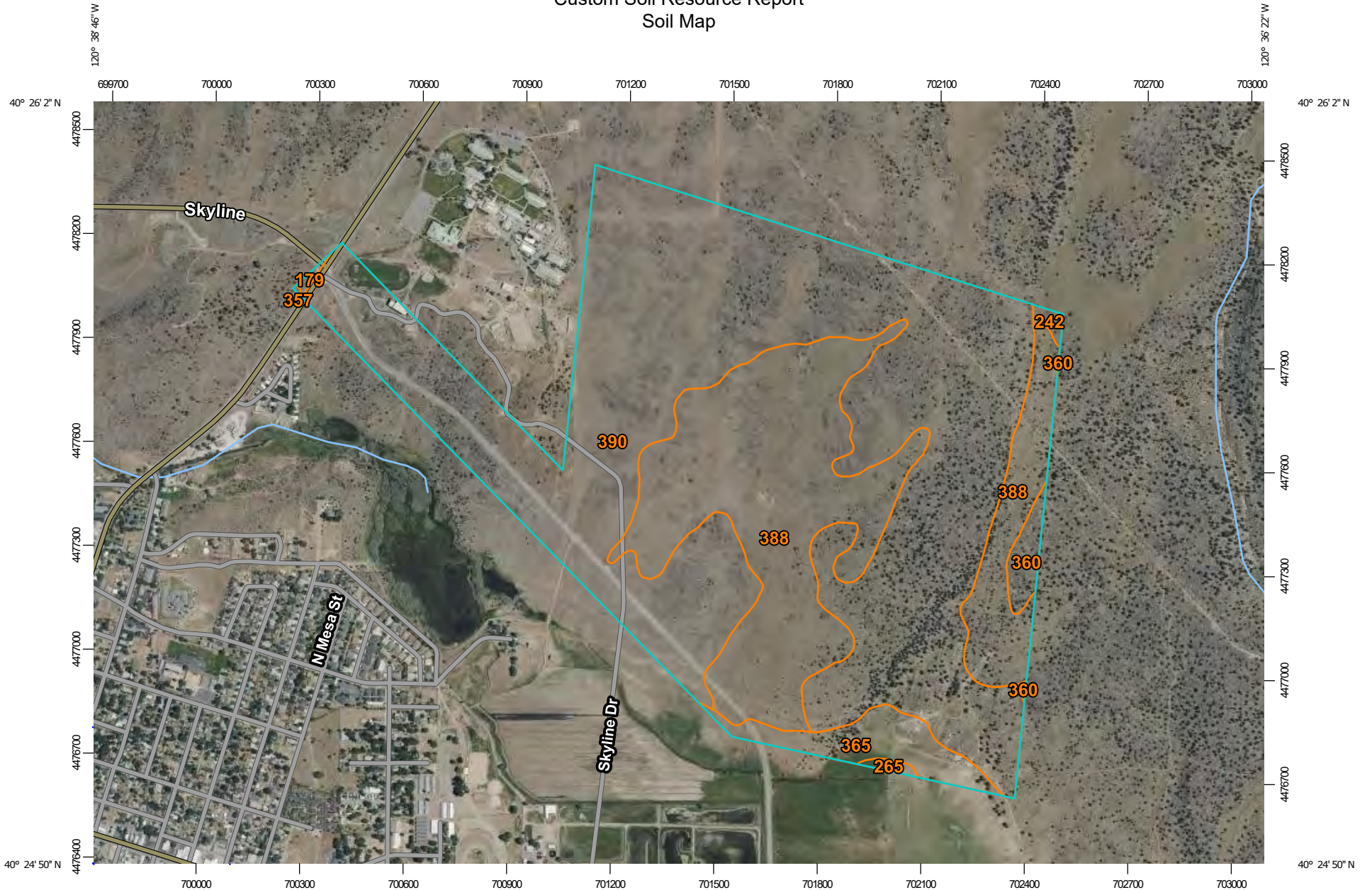
Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

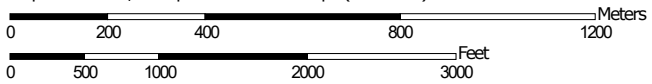
Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map




Map Scale: 1:15,500 if printed on A landscape (11" x 8.5") sheet.




Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84


MAP LEGEND


Area of Interest (AOI)

 Area of Interest (AOI)




















Soils







 Soil Map Unit Polygons

 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features






-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features


Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Susanville Area, Parts of Lassen and Plumas Counties, California
 Survey Area Data: Version 17, Sep 3, 2025

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 8, 2019—Jun 21, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
179	Devada-Rock outcrop association, 2 to 50 percent slopes	0.6	0.1%
242	Horsecamp cobbly silty clay, 2 to 9 percent slopes	1.4	0.3%
265	Lakeview loam, warm, 0 to 2 percent slopes	1.1	0.2%
357	Searles-Devada-Rubble land association, 30 to 50 percent slopes	0.1	0.0%
360	Searles-Orhood-Devada association, 5 to 30 percent slopes	5.7	1.1%
365	Springmeyer sandy loam, 0 to 5 percent slopes	18.4	3.5%
388	Tunnison very cobbly clay, 2 to 9 percent slopes	149.1	28.2%
390	Tunnison-Devada association, 2 to 9 percent slopes	352.6	66.7%
Totals for Area of Interest		529.0	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They

Custom Soil Resource Report

generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Susanville Area, Parts of Lassen and Plumas Counties, California

179—Devada-Rock outcrop association, 2 to 50 percent slopes

Map Unit Setting

National map unit symbol: jc76
Elevation: 4,400 to 5,600 feet
Mean annual precipitation: 10 to 14 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 60 to 100 days
Farmland classification: Not prime farmland

Map Unit Composition

Devada and similar soils: 70 percent
Rock outcrop: 20 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Devada

Setting

Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Lower third of mountainflank
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite

Typical profile

A - 0 to 7 inches: very cobbly loam
Bt - 7 to 15 inches: gravelly clay
R - 15 to 25 inches: unweathered bedrock

Properties and qualities

Slope: 2 to 50 percent
Surface area covered with cobbles, stones or boulders: 5.0 percent
Depth to restrictive feature: 12 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to low (0.00 to 0.01 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: R023XF081CA - SHALLOW STONY LOAM 9-12"
Hydric soil rating: No

Description of Rock Outcrop

Setting

Landform: Mountains
Down-slope shape: Convex
Across-slope shape: Convex

Typical profile

H1 - 0 to 10 inches: unweathered bedrock

Properties and qualities

Slope: 2 to 50 percent
Depth to restrictive feature: 0 inches to lithic bedrock
Runoff class: Very high

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Longcreek

Percent of map unit: 10 percent
Landform: Mountains
Landform position (two-dimensional): Backslope
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: R023XF082CA - STONY LOAM 9-12"
Hydric soil rating: No

242—Horsecamp cobbly silty clay, 2 to 9 percent slopes

Map Unit Setting

National map unit symbol: jcb2
Elevation: 4,300 to 6,000 feet
Mean annual precipitation: 9 to 16 inches
Mean annual air temperature: 44 to 49 degrees F
Frost-free period: 70 to 100 days
Farmland classification: Not prime farmland

Map Unit Composition

Horsecamp and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Horsecamp

Setting

Landform: Plateaus
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Mountaintop
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Residuum weathered from volcanic rock

Typical profile

A - 0 to 2 inches: cobbly silty clay
Bss - 2 to 27 inches: silty clay
Bkss - 27 to 46 inches: silty clay
R - 46 to 50 inches: unweathered bedrock

Properties and qualities

Slope: 2 to 9 percent
Surface area covered with cobbles, stones or boulders: 3.0 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 8 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 6.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Ecological site: R023XF084CA - CLAY UPLAND 9-16"
Hydric soil rating: No

Minor Components

Devada

Percent of map unit: 4 percent
Landform: Plateaus
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R023XF081CA - SHALLOW STONY LOAM 9-12"
Hydric soil rating: No

Ravendale

Percent of map unit: 3 percent
Landform: Basin floors
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R023XF092CA - CLAY FLOODPLAIN 9-16"
Hydric soil rating: No

Rock outcrop

Percent of map unit: 2 percent
Landform: Plateaus
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Brubeck

Percent of map unit: 2 percent
Landform: Plateaus
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R023XF084CA - CLAY UPLAND 9-16"
Hydric soil rating: No

Tunnison

Percent of map unit: 2 percent
Landform: Plateaus
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R023XF093CA - SHALLOW CLAY 9-16"
Hydric soil rating: No

Longcreek

Percent of map unit: 2 percent
Landform: Mountains
Landform position (two-dimensional): Backslope
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: R023XF082CA - STONY LOAM 9-12"
Hydric soil rating: No

265—Lakeview loam, warm, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: jcpy
Elevation: 4,100 to 6,500 feet
Mean annual precipitation: 9 to 20 inches
Mean annual air temperature: 44 to 52 degrees F
Frost-free period: 60 to 130 days
Farmland classification: Not prime farmland

Map Unit Composition

Lakeview and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lakeview

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from volcanic rock

Typical profile

A - 0 to 18 inches: loam
Bw - 18 to 60 inches: clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 30 to 60 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): 2w
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C
Ecological site: R021XG910CA - Loamy
Hydric soil rating: No

Minor Components

Massack

Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Incy

Percent of map unit: 5 percent
Landform: Dunes
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: R026XF022CA - GRANITIC SAND 9-12"
Hydric soil rating: No

Madeline

Percent of map unit: 5 percent
Landform: Mountains
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: R021XE179CA - WARM STONY LOAM 12-16"

Hydric soil rating: No

357—Searles-Devada-Rubble land association, 30 to 50 percent slopes

Map Unit Setting

National map unit symbol: jchd
Elevation: 4,500 to 6,000 feet
Mean annual precipitation: 9 to 18 inches
Mean annual air temperature: 44 to 48 degrees F
Frost-free period: 80 to 100 days
Farmland classification: Not prime farmland

Map Unit Composition

Searles and similar soils: 40 percent
Devada and similar soils: 25 percent
Rubble land: 20 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Searles

Setting

Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical profile

A - 0 to 13 inches: very cobbly loam
Bt - 13 to 29 inches: very gravelly clay loam
R - 29 to 39 inches: unweathered bedrock

Properties and qualities

Slope: 30 to 50 percent
Surface area covered with cobbles, stones or boulders: 5.0 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e

Custom Soil Resource Report

Hydrologic Soil Group: C

Ecological site: R021XE179CA - WARM STONY LOAM 12-16"

Hydric soil rating: No

Description of Devada

Setting

Landform: Mountains

Landform position (two-dimensional): Foothlope

Landform position (three-dimensional): Mountainflank

Down-slope shape: Concave

Across-slope shape: Convex

Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite

Typical profile

A - 0 to 7 inches: very cobbly loam

Bt - 7 to 15 inches: gravelly clay

R - 15 to 19 inches: unweathered bedrock

Properties and qualities

Slope: 30 to 50 percent

Surface area covered with cobbles, stones or boulders: 5.0 percent

Depth to restrictive feature: 12 to 20 inches to lithic bedrock

Drainage class: Well drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low to low (0.00 to 0.01 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Very low (about 1.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: D

Ecological site: R023XF081CA - SHALLOW STONY LOAM 9-12"

Hydric soil rating: No

Description of Rubble Land

Setting

Landform: Mountains

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Free face

Down-slope shape: Concave

Across-slope shape: Convex

Parent material: Andesite or basalt

Typical profile

H1 - 0 to 60 inches: fragmental material

Properties and qualities

Slope: 30 to 50 percent

Depth to restrictive feature: 60 inches to lithic bedrock

Drainage class: Excessively drained

Runoff class: Low

Custom Soil Resource Report

Capacity of the most limiting layer to transmit water (Ksat): Very high (20.00 in/hr)
Available water supply, 0 to 60 inches: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Fivesprings

Percent of map unit: 5 percent
Landform: Mountains
Landform position (two-dimensional): Backslope
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: R021XE179CA - WARM STONY LOAM 12-16"
Hydric soil rating: No

Longcreek

Percent of map unit: 5 percent
Landform: Mountains
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: R023XF082CA - STONY LOAM 9-12"
Hydric soil rating: No

Fiddler

Percent of map unit: 3 percent
Landform: Mountains
Landform position (two-dimensional): Backslope
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: R021XE174CA - STONY LOAM 12-16"
Hydric soil rating: No

Rock outcrop

Percent of map unit: 2 percent
Landform: Mountains
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

360—Searles-Orhood-Devada association, 5 to 30 percent slopes

Map Unit Setting

National map unit symbol: jchk
Elevation: 4,000 to 6,200 feet

Custom Soil Resource Report

Mean annual precipitation: 9 to 35 inches
Mean annual air temperature: 44 to 52 degrees F
Frost-free period: 60 to 130 days
Farmland classification: Not prime farmland

Map Unit Composition

Searles and similar soils: 35 percent
Orhood and similar soils: 30 percent
Devada and similar soils: 20 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Searles

Setting

Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Colluvium derived from volcanic rock and/or residuum weathered from volcanic rock

Typical profile

A - 0 to 13 inches: very stony loam
Bt - 13 to 29 inches: very cobbly clay loam
R - 29 to 39 inches: unweathered bedrock

Properties and qualities

Slope: 5 to 30 percent
Surface area covered with cobbles, stones or boulders: 15.0 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: C
Ecological site: R021XG910CA - Loamy
Hydric soil rating: No

Description of Orhood

Setting

Landform: Ridges, mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Upper third of mountainflank
Down-slope shape: Convex, linear
Across-slope shape: Linear

Custom Soil Resource Report

Parent material: Colluvium derived from volcanic rock and/or residuum weathered from volcanic rock

Typical profile

A - 0 to 4 inches: very stony loam
BAt - 4 to 9 inches: very cobbly loam
Bt - 9 to 19 inches: very cobbly clay loam
R - 19 to 29 inches: unweathered bedrock

Properties and qualities

Slope: 5 to 30 percent
Surface area covered with cobbles, stones or boulders: 15.0 percent
Depth to restrictive feature: 14 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R021XG907CA - Shallow Loamy
Hydric soil rating: No

Description of Devada

Setting

Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Colluvium derived from andesite and/or colluvium derived from basalt and/or residuum weathered from basalt and/or residuum weathered from andesite

Typical profile

A - 0 to 7 inches: very cobbly loam
Bt - 7 to 15 inches: gravelly clay
R - 15 to 19 inches: unweathered bedrock

Properties and qualities

Slope: 5 to 30 percent
Surface area covered with cobbles, stones or boulders: 15.0 percent
Depth to restrictive feature: 12 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to low (0.00 to 0.01 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

Custom Soil Resource Report

Available water supply, 0 to 60 inches: Very low (about 1.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: D

Ecological site: R021XG906CA - Shallow Clayey

Hydric soil rating: No

Minor Components

Bucklake

Percent of map unit: 4 percent

Landform: Mountains

Landform position (two-dimensional): Backslope

Down-slope shape: Concave

Across-slope shape: Linear

Ecological site: R023XF082CA - STONY LOAM 9-12"

Hydric soil rating: No

Fiddler

Percent of map unit: 4 percent

Landform: Mountains

Landform position (two-dimensional): Backslope

Down-slope shape: Concave

Across-slope shape: Linear

Ecological site: R021XE174CA - STONY LOAM 12-16"

Hydric soil rating: No

Fivesprings

Percent of map unit: 3 percent

Landform: Mountains

Landform position (two-dimensional): Backslope

Down-slope shape: Concave

Across-slope shape: Linear

Ecological site: R023XF082CA - STONY LOAM 9-12"

Hydric soil rating: No

Xerolls

Percent of map unit: 2 percent

Landform: Lakeshores

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

Rock outcrop

Percent of map unit: 2 percent

Landform: Mountains

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

365—Springmeyer sandy loam, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: jchs
Elevation: 4,000 to 4,600 feet
Mean annual precipitation: 9 to 16 inches
Mean annual air temperature: 50 to 52 degrees F
Frost-free period: 100 to 130 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Springmeyer and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Springmeyer

Setting

Landform: Fan remnants
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed rocks

Typical profile

A - 0 to 11 inches: sandy loam
Bt - 11 to 25 inches: clay loam
C - 25 to 60 inches: stratified gravelly loamy sand to sandy clay loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 7.6 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 6e

Custom Soil Resource Report

Hydrologic Soil Group: C
Ecological site: R021XG910CA - Loamy
Hydric soil rating: No

Minor Components

Mottsville

Percent of map unit: 5 percent
Landform: Fan remnants
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: R021XE181CA - GRANITIC FAN 12-16"
Hydric soil rating: No

388—Tunnison very cobbly clay, 2 to 9 percent slopes

Map Unit Setting

National map unit symbol: jcyj
Elevation: 4,300 to 6,000 feet
Mean annual precipitation: 9 to 16 inches
Mean annual air temperature: 46 to 49 degrees F
Frost-free period: 80 to 100 days
Farmland classification: Not prime farmland

Map Unit Composition

Tunnison and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tunnison

Setting

Landform: Plateaus
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Upper third of mountainflank
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical profile

A - 0 to 1 inches: very cobbly clay
Bss - 1 to 31 inches: clay
Crt - 31 to 38 inches: weathered bedrock
R - 38 to 48 inches: unweathered bedrock

Properties and qualities

Slope: 2 to 9 percent
Depth to restrictive feature: 20 to 35 inches to paralithic bedrock; 30 to 40 inches to lithic bedrock
Drainage class: Well drained

Custom Soil Resource Report

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low to low (0.00 to 0.01 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: D

Ecological site: R023XF093CA - SHALLOW CLAY 9-16"

Hydric soil rating: No

Minor Components

Devada

Percent of map unit: 5 percent

Landform: Mountains

Down-slope shape: Convex

Ecological site: R023XF081CA - SHALLOW STONY LOAM 9-12"

Hydric soil rating: No

Horsecamp

Percent of map unit: 3 percent

Landform: Plateaus

Down-slope shape: Convex

Ecological site: R023XF084CA - CLAY UPLAND 9-16"

Hydric soil rating: No

Longcreek

Percent of map unit: 3 percent

Landform: Mountains

Down-slope shape: Concave

Across-slope shape: Linear

Ecological site: R023XF082CA - STONY LOAM 9-12"

Hydric soil rating: No

Rock outcrop

Percent of map unit: 2 percent

Landform: Plateaus

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

Rubble land

Percent of map unit: 2 percent

Landform: Plateaus

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

390—Tunnison-Devada association, 2 to 9 percent slopes

Map Unit Setting

National map unit symbol: jck1
Elevation: 5,000 to 5,600 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 44 to 47 degrees F
Frost-free period: 80 to 100 days
Farmland classification: Not prime farmland

Map Unit Composition

Tunnison and similar soils: 50 percent
Devada and similar soils: 45 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tunnison

Setting

Landform: Plateaus
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Upper third of mountainflank
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Colluvium derived from volcanic rock and/or residuum weathered from volcanic rock

Typical profile

A - 0 to 1 inches: very stony clay
Bss - 1 to 31 inches: clay
Crt - 31 to 38 inches: weathered bedrock
R - 38 to 48 inches: unweathered bedrock

Properties and qualities

Slope: 2 to 9 percent
Surface area covered with cobbles, stones or boulders: 20.0 percent
Depth to restrictive feature: 20 to 35 inches to paralithic bedrock; 30 to 40 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to low (0.00 to 0.01 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s

Custom Soil Resource Report

Hydrologic Soil Group: D
Ecological site: R021XG909CA - Clayey
Hydric soil rating: No

Description of Devada

Setting

Landform: Plateaus
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Upper third of mountainflank
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Colluvium derived from andesite and/or colluvium derived from basalt and/or residuum weathered from basalt and/or residuum weathered from andesite

Typical profile

A - 0 to 7 inches: extremely cobbly loam
Bt - 7 to 15 inches: gravelly clay
R - 15 to 25 inches: unweathered bedrock

Properties and qualities

Slope: 2 to 9 percent
Surface area covered with cobbles, stones or boulders: 30.0 percent
Depth to restrictive feature: 12 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to low (0.00 to 0.01 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R021XG906CA - Shallow Clayey
Hydric soil rating: No

Minor Components

Orhood

Percent of map unit: 5 percent
Landform: Ridges, mountains
Landform position (two-dimensional): Backslope
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: R021XE174CA - STONY LOAM 12-16"
Hydric soil rating: No

References

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Reno Fish And Wildlife Office
1340 Financial Boulevard, Suite 234
Reno, NV 89502-7147
Phone: (775) 861-6300 Fax: (775) 861-6301

In Reply Refer To:

10/29/2025 18:44:37 UTC

Project Code: 2026-0010044

Project Name: Skyline utility Corridor Addendum

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

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through IPaC by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems 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 threatened and endangered species and to determine whether projects may affect threatened and endangered 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, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared 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 a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: <https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see [Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service \(fws.gov\)](#).

It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see <https://www.fws.gov/library/collections/threats-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries

- Bald & Golden Eagles
- Migratory Birds
- Wetlands

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:

Reno Fish And Wildlife Office
1340 Financial Boulevard, Suite 234
Reno, NV 89502-7147
(775) 861-6300

PROJECT SUMMARY

Project Code: 2026-0010044
Project Name: Skyline utility Corridor Addendum
Project Type: Surface Extraction - Non Energy Materials
Project Description: Proposed mining operation for the excavation and processing of aggregate. Proposed activities include surface mining and sorting and processing of aggregate, asphalt, and ready mix concrete.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@40.4234318,-120.61822586451441,14z>



Counties: Lassen County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 6 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 Fisheries¹, 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.

-
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
<p>Gray Wolf <i>Canis lupus</i></p> <p>Population: U.S.A.: All of AL, AR, CA, CO, CT, DE, FL, GA, IA, IN, IL, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, ND, NE, NH, NJ, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, and WV; and portions of AZ, NM, OR, UT, and WA. Mexico.</p> <p>There is final critical habitat for this species.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/4488</p> <p>General project design guidelines: https://ipac.ecosphere.fws.gov/project/FXHY23K7BBDMZHSFNTPEAZPMTI/documents/generated/11040.pdf</p>	Endangered

BIRDS

NAME	STATUS
<p>California Condor <i>Gymnogyps californianus</i></p> <p>Population: Pacific Northwest NEP</p> <p>No critical habitat has been designated for this species.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/8193</p>	Experimental Population, Non-Essential

REPTILES

NAME	STATUS
<p>Northwestern Pond Turtle <i>Actinemys marmorata</i></p> <p>No critical habitat has been designated for this species.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/1111</p> <p>General project design guidelines: https://ipac.ecosphere.fws.gov/project/FXHY23K7BBDMZHSFNTPEAZPMTI/documents/generated/11040.pdf</p>	Proposed Threatened

INSECTS

NAME	STATUS
<p>Carson Wandering Skipper <i>Pseudocopaeodes eunus obscurus</i></p> <p>No critical habitat has been designated for this species.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/674</p>	Endangered
<p>Monarch Butterfly <i>Danaus plexippus</i></p> <p>There is proposed critical habitat for this species. Your location does not overlap the critical habitat.</p> <p>Species profile: https://ecos.fws.gov/ecp/species/9743</p> <p>General project design guidelines: https://ipac.ecosphere.fws.gov/project/FXHY23K7BBDMZHSFNTPEAZPMTI/documents/generated/11040.pdf</p>	Proposed Threatened
<p>Suckley's Cuckoo Bumble Bee <i>Bombus suckleyi</i></p> <p>Population:</p> <p>No critical habitat has been designated for this species.</p>	Proposed Endangered

NAME

STATUS

Species profile: <https://ecos.fws.gov/ecp/species/10885>

CRITICAL HABITATS

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

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act ² and the Migratory Bird Treaty Act (MBTA) ¹. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

-
1. The [Bald and Golden Eagle Protection Act](#) of 1940.
 2. The [Migratory Birds Treaty Act](#) of 1918.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are Bald Eagles and/or Golden Eagles in your [project](#) area.

Measures for Proactively Minimizing Eagle Impacts

For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the [National Bald Eagle Management Guidelines](#). You may employ the timing and activity-specific distance recommendations in this document when designing your project/activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to [Bald Eagle Nesting and Sensitivity to Human Activity](#).

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional [Migratory Bird Office](#) or [Ecological Services Field Office](#).

If disturbance or take of eagles cannot be avoided, an [incidental take permit](#) may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the [Do I Need A Permit Tool](#). For assistance making this determination for golden eagles, please consult with the appropriate Regional [Migratory Bird Office](#) or [Ecological Services Field Office](#).

Ensure Your Eagle List is Accurate and Complete

If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the [Supplemental Information on Migratory Birds and Eagles](#), to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31
Golden Eagle <i>Aquila chrysaetos</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Dec 1 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)

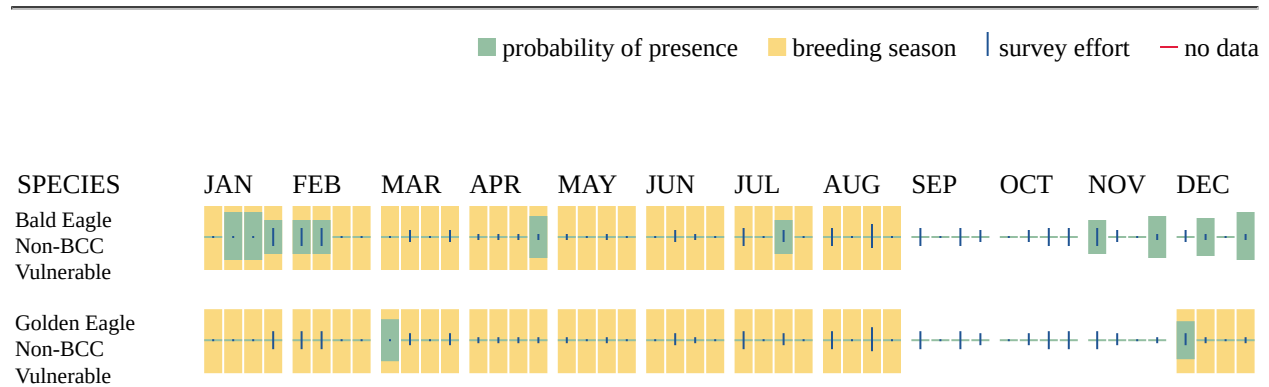
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (-)

A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide avoidance and minimization measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) ¹ prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
<p>American Dipper <i>Cinclus mexicanus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/11928</p>	Breeds Mar 21 to Aug 21
<p>Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626</p>	Breeds Jan 1 to Aug 31
<p>California Gull <i>Larus californicus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10955</p>	Breeds Mar 1 to Jul 31
<p>Calliope Hummingbird <i>Selasphorus calliope</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9526</p>	Breeds May 1 to Aug 15
<p>Cassin's Finch <i>Haemorhous cassinii</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9462</p>	Breeds May 15 to Jul 15
<p>Clark's Grebe <i>Aechmophorus clarkii</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10575</p>	Breeds Jun 1 to Aug 31
<p>Golden Eagle <i>Aquila chrysaetos</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680</p>	Breeds Dec 1 to Aug 31
<p>Lewis's Woodpecker <i>Melanerpes lewis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9408</p>	Breeds Apr 20 to Sep 30
<p>Pinyon Jay <i>Gymnorhinus cyanocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9420</p>	Breeds Feb 15 to Jul 15
<p>Western Grebe <i>aechmophorus occidentalis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743</p>	Breeds Jun 1 to Aug 31

NAME	BREEDING SEASON
Willet <i>Tringa semipalmata</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10669	Breeds Apr 20 to Aug 5

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)

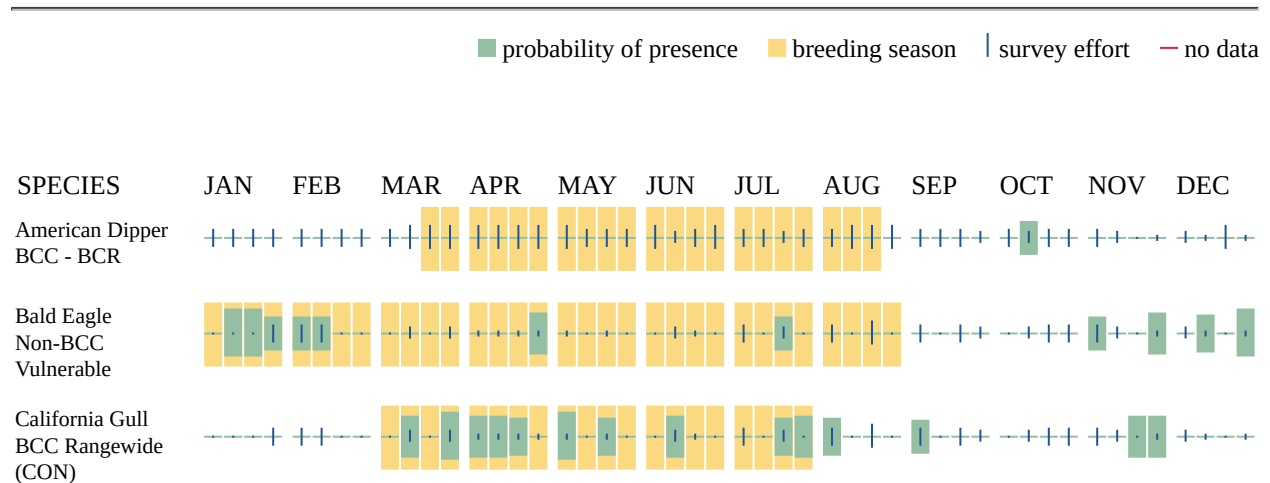
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

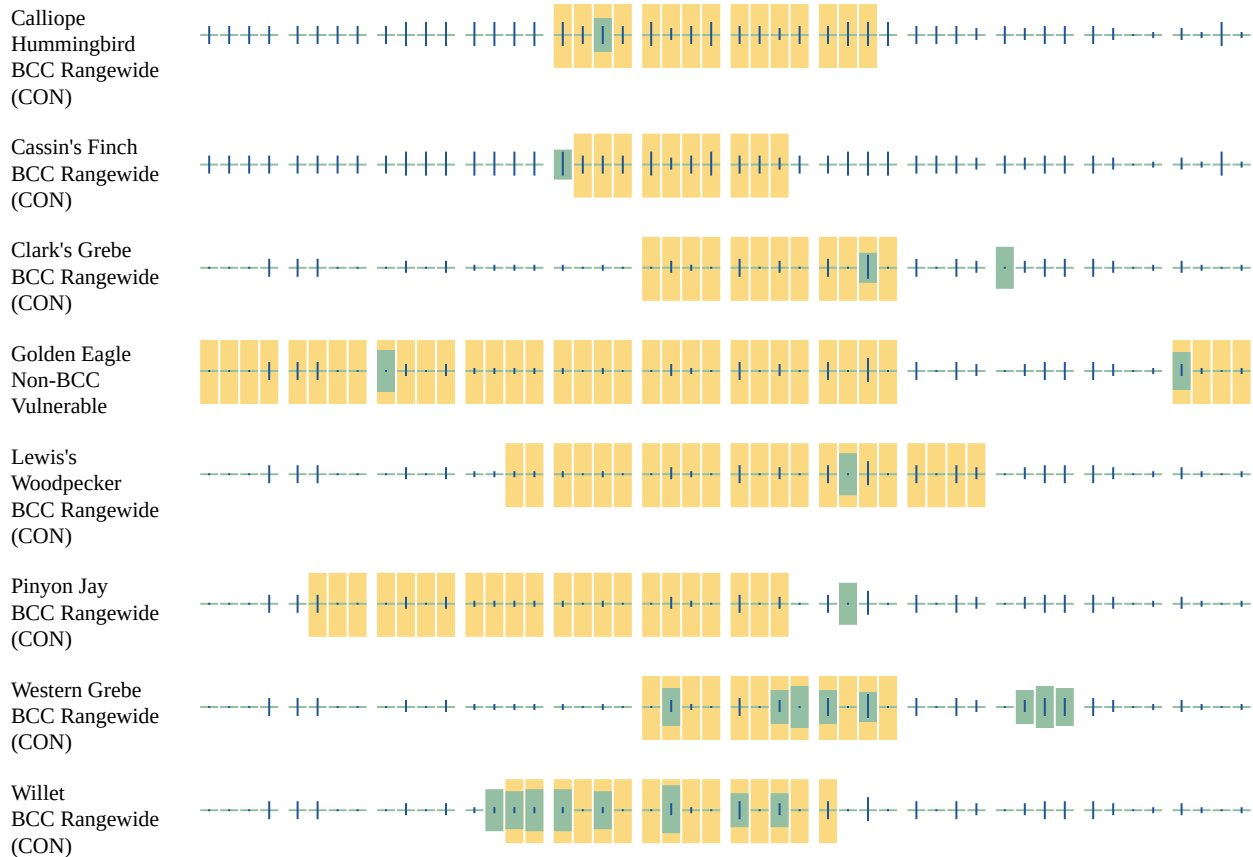
Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (—)

A week is marked as having no data if there were no survey events for that week.





Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

WETLANDS

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

RIVERINE

- R4SBA

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Jazmyn Kizziar
Address: 5300 Aviation Drive
City: Redding
State: CA
Zip: 96002
Email: jkizziar@vestra.com
Phone: 6614773599

Graphics and Selections





BIOS Layers

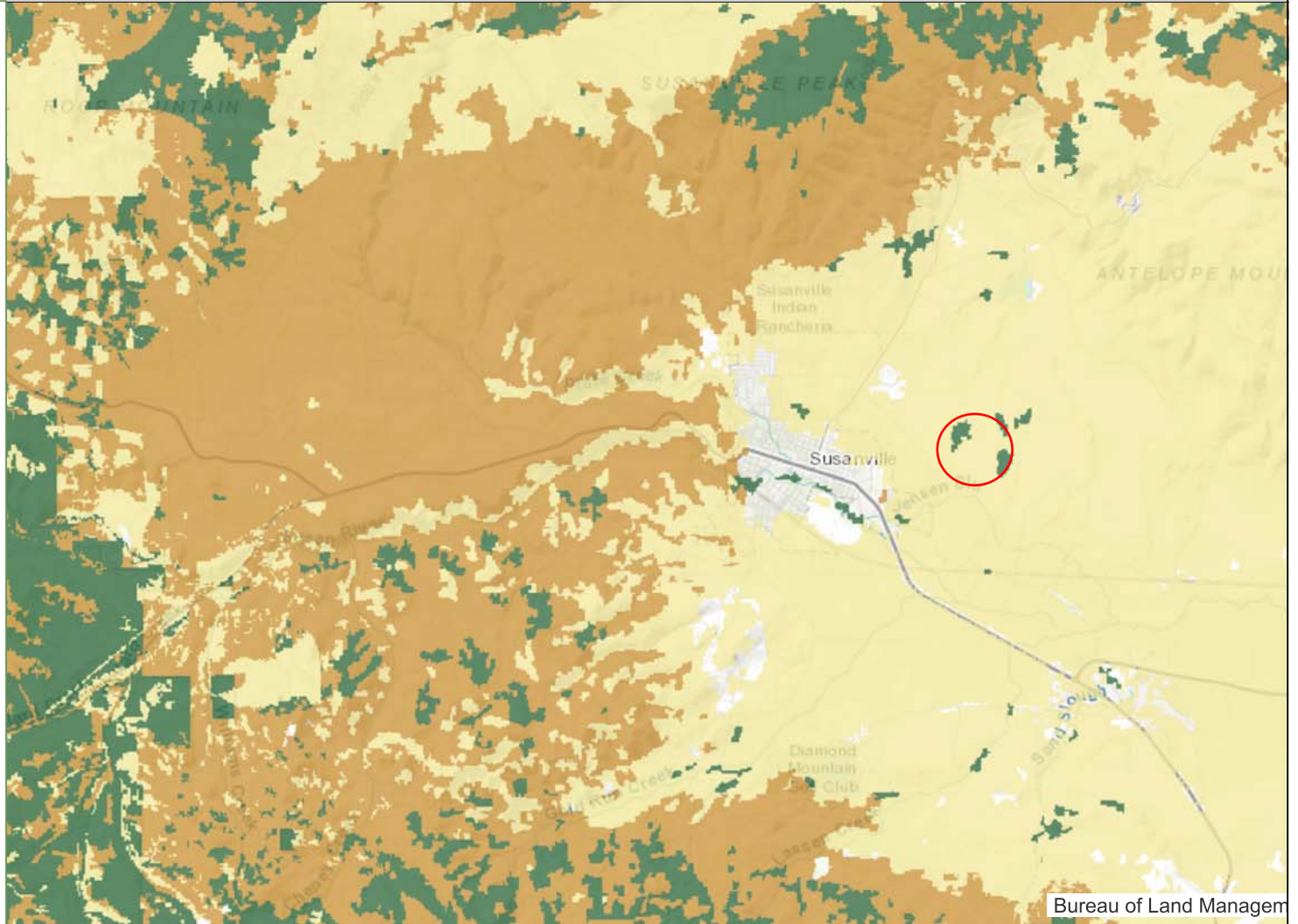
Remove All BIOS Layers

– Long-Eared Myotis Predicted Habitat - CWHR M025 [ds2484]

Go X

Legend

-  Low
-  Medium
-  High
-  Approximate site location



Bureau of Land Management