# 4.3 BIOLOGICAL RESOURCES

This section provides information on biological resources that occur or could occur within the Park, and could be impacted by Program Actions of the Project. This section also includes specific information on the biological resources and potential impacts to these resources. Section 4.0, Environmental Analysis, provides a description of the DPR's analytical methodology that is applied to each resource category, including Biological Resources, from a program and area-specific perspective.

## 4.3.1 EXISTING CONDITIONS

Section 4.0 provides a regional overview of the Park's existing conditions. A brief reiteration of regional features affecting the biological resources at the Park is included below.

The Park lies in the foothills of the Sierra Nevada Mountain Range and is characterized by diverse topography representative of the western Sierra Nevada foothills. Steep to very steep rolling hills with perennial drainages are interspersed with more gentle plateaus. Park elevations range from 1,900 to 2,900 feet above mean sea level (amsl). Piles of mine waste rock and mill tailing substantially affect the topography of those specific areas. The waste rock deposits generally occur as small to large conical mounds of cobble and sand, supporting sparse vegetative cover.

The Park is within a semi-Mediterranean climatic zone and has cold, moist winters and hot, dry summers. Annual precipitation averages about 53 inches (Western Regional Climate Center 2008). Perennial streams, ephemeral ponds, man-made drainage corridors, and an emergent marsh are the characteristic hydrologic features within the Park. A majority of the park supports forested hills that are dominated by conifers with scattered oaks. Areas of chaparral, grassland, riparian, and wetland vegetation communities also occur within the Park's boundaries.

### 4.3.1.1 Methods

The Project Proponents studied the existing biological resources to provide a baseline to assess potential impacts resulting from Program Actions. URS Corporation conducted a Biological Assessment for a Fuel Break Project at the Park and prepared vegetative mapping for most of the Park (see Appendix E-5, URS Biological Assessment). Vestra Resources, Inc. (Vestra), a consultant to the Project Proponents, conducted a comprehensive review of available literature (including published and unpublished studies) related to biological resources at the Park and surrounding areas; conducted vegetation mapping; botanical and wildlife surveys; and prepared a preliminary wetland delineation of the area where specific remedial actions are currently focused for the Park (Central Area: Figure 4.3-1, Vegetation Map). In addition to the surveys listed above, Vestra conducted protocol-level surveys for several special-status

species in accordance with United States Fish and Wildlife Services (USFWS) (2008) and/or CDFG (CDFG 2008) survey guidelines. Appendices E-2, (Biological Characterization Report, E-3 (Wetland Delineation), and E-4 (California Red Legged Frog Assessment) provide the results of these studies. Berryman Ecological (2009) analyzed the vegetation and habitat mapping that Vestra (2009) had produced for the Central Area and URS (2005) had produced for most of the Park. Berryman Ecological conducted additional field investigations and mapping to cover portions of the Park that neither Vestra (2009) nor URS (2005) had mapped, and incorporated Vestra and URS mapping data into revised vegetation and habitat maps that cover the entire Park (see Appendix E-1, Vegetation and Habitat Assessment; and Figure 4.3-1). Each subsection below includes a more specific discussion of methodology used.

### 4.3.1.2 Vegetation

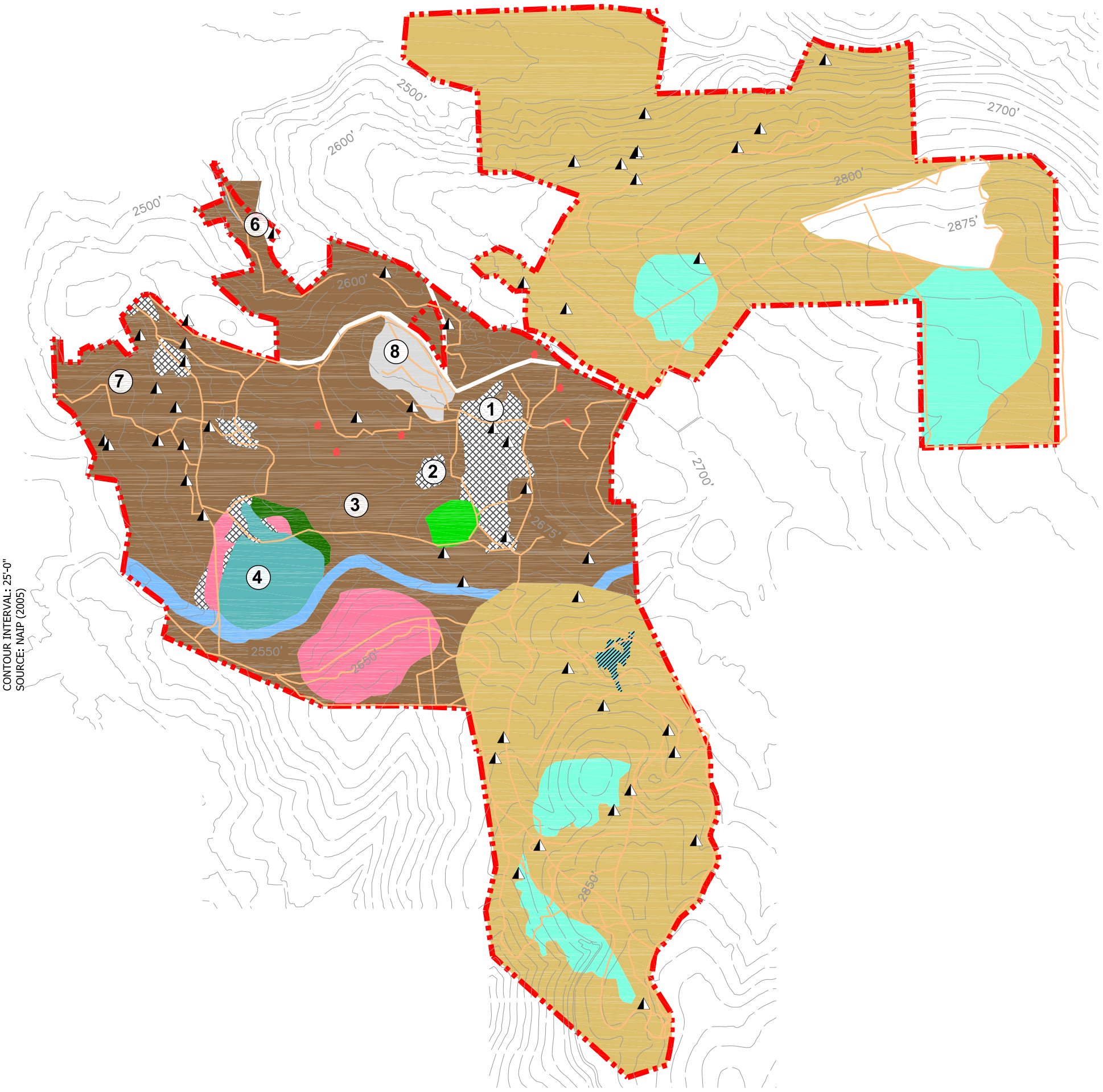
In addition to the URS vegetation mapping discussed in Methods, above, Vestra (2009a) conducted surveys and mapped the vegetation in the Central Area in May and June 2008. In February, 2009, Berryman Ecological mapped the vegetation that neither URS nor Vestra had previously mapped. Based on Vestra mapping, Figure 4.3-1 provides vegetation mapping within the Central Area at a more detailed level than mapping outside the Central Area.

The following subsections describe vegetation communities Berryman Ecological (2009) identified in the Park based upon CDFG's List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Data Base (CDFG 2003). CDFG's list of vegetation communities uses the National Vegetation Classification System, which is expressed in this state by the Manual of California Vegetation (Sawyer and Keeler-Wolf 1995). However, CDFG's 2003 list is not identical to the 1995 (first) edition of Sawyer and Keeler-Wolf's manual; it has been adapted from the 1995 manual to serve as an interim reference until the second edition of the manual is published.

#### Ponderosa Pine Forests and Woodlands Alliance (Westside Ponderosa Pine Association)

The Ponderosa Pine Forests and Woodlands Alliance (CDFG 2003) is characterized by a predominance of ponderosa pine (*Pinus ponderosa*). This vegetation community occurs in the Sierra Nevada from approximately 980 to 6,900 feet amsl (Sawyer Keeler-Wolf 1995).

While ponderosa pine is the predominant species in this vegetation community at the Park, less predominant species include Douglas-fir (*Pseudotsuga menziesii*), incense cedar (*Calocedrus decurrens*), and black oak (*Quercus kelloggii*). Other tree species observed in the over-story include Pacific madrone (*Arbutus*




**Remediation Areas:**

1. Mine Yard and Stamp Mill
2. Cyanide Plant Area
3. Conveyance Corridor and Adit Project
4. Sand Dam Area
5. Historic Mine and Mill Sites **(Area 5)**
6. Magenta Drain Area
7. Stacy Lane Pond Area
8. Historic Grounds Area
9. Residences and Residences Yards **(Area 9)**
10. Trails **(Area 10)**

- Empire Mine SHP Boundary
- Sand Dam Wetland
- Ponderosa Pine/Mixed Conifer Series
- Black Oak Series
- Arroyo Willow/White Alder Series
- Whiteleaf Manzanita Series
- Developed
- Early Successional Stages of WPPF
- Disturbed Areas
- Montane Manzanita Chaparral
- Barren
- California Annual Grassland

N

0 1000'-0"

SCALE: 1" = 1000'-0"

**Figure 4.3-1**
**Vegetation**

EMPIRE MINE SHP
SITE CHARACTERIZATION
AND REMEDIATION PROJECT

RESOURCE DESIGN TECHNOLOGY, INC.

*menziesii*), big-leaf maple (*Acer macrophyllum*), and California buckeye (*Aesculus californica*).

The under-story includes large patches of whiteleaf manzanita (*Arctostaphylos viscida*), which reach 12 feet high in some locations, and ponderosa pine saplings. Other common species that are found in the shrub under-story include:

- Poison-oak (*Toxicodendron diversilobum*);
- Himalayan blackberry (*Rubus armeniacus,* formerly *discolor*);
- Small patches of California blackberry (*R. ursinus*);
- Buckbrush (*Ceanothus cuneatus*);
- Deer brush (*Ceanothus integerrimus*);
- California coffeeberry (*Rhamnus californica*); and
- Wood rose (*Rosa gymnocarpa*).

The herbaceous layer is dominated by everlasting pea (*Lathyrus latifolius*), which often forms extensive patches, Sierran mountain misery (*Chamaebatia foliolosa*), and sky lupine (*Lupinus nanus*). Other, less common herbaceous species include:

- Rainbow iris (*Iris hartwegii*):
- Honeysuckle (*Lonicera* sp.);
- Davy's gumplant (*Grindelia hirsutula* var. *davyi*);
- Soap plant (*Chlorogalum pomeridianum*);
- California Indian pink (*Silene californica*);
- Miner's lettuce (*Claytonia parviflora*); and
- Creeping honeysuckle (*Lonicera hispidula*).

Ponderosa Pine Forest and Woodland Alliance at the Park can best be classified as Westside Ponderosa Pine Association (CDFG 2003), which CDFG considers to be a vegetation community of high inventory priority. The designation as high priority for inventory implies that CDFG considers this vegetation alliance to be a sensitive vegetation community.

### Black Oak Forests and Woodlands Alliance (Black Oak Forest Association)

The Black Oak Forests and Woodlands Alliance is characterized by black oak as the only dominant tree species. Common species in the shrub and herbaceous layers are similar to those described above for Ponderosa Pine Forest and Woodland Alliance. The Black Oak Forest and Woodland Alliance occurs in the

Sierra Nevada from approximately 200 to 8,200 feet amsl (Sawyer Keeler-Wolf 1995).

Vestra (2009) mapped a patch of this vegetation community in the Sand Dam Area; Berryman Ecological (2009) included the patch of Black Oak Forests and Woodlands Alliance that Vestra mapped in the final vegetation map (see Figure 4.3-1). However, areas that URS (2005) and Berryman Ecological (2009) mapped include patches of black oak dominated vegetation within a larger Ponderosa Pine Forests and Woodlands Alliance matrix, and do not map the black oak dominated areas separately. Patches of black oak are common within the Ponderosa Pine Forests and Woodlands Alliance, and since the black oak association is not considered a special status vegetation community by CDFG, Berryman Ecological (2009) concluded that patches of black oak throughout the Park do not need to be mapped separately for the purpose of this CEQA analysis.

CDFG (2003) recognizes several special vegetation associations within the Black Oak Forests and Woodlands Alliance. However, this vegetation at the Park can best be classified as Black Oak Forest Association, which is not considered a special status vegetation community by CDFG.

### Whiteleaf Manzanita Association

The Whiteleaf Manzanita Association is a vegetation association of the Chaparral with Manzanita Alliance. Whiteleaf manzanita is the dominant species in the chaparral areas throughout the Park. Associated species include toyon (*Heteromeles arbutifolia*) and occasionally Indian manzanita (*Arctostaphylos mewukka* var. *mewukka*). DPR (2008) also documented True's manzanita (*Arctostaphylos mewukka* var. *truei*: a CNPS List 4 species) within this Association in the Osborne Hill area of the Park.

CDFG does not designate Whiteleaf Manzanita Association as a sensitive vegetation community.

### Arroyo Willow Riparian Forests and Woodlands Alliance

Vestra (2009a) and Berryman Ecological (2009) mapped the Arroyo Willow Riparian Forests and Woodlands Alliance and White Alder Forests and Woodlands Alliance together on Figure 4.3-1 because the scale at which the mapping was conducted did not allow for differentiation.

The Arroyo Willow Riparian Forests and Woodlands Alliance is present at the Park along Little Wolf Creek and the South Fork Wolf Creek and is dominated by arroyo willow (*Salix lasiolepis*) with other riparian trees, including white alder

(*Alnus rhombifolia*), Fremont's cottonwood *(Populus fremontii),* shining willow *(Salix lucida),* big-leaf maple and mountain dogwood *(Cornus nuttallii).* The under-story is dominated by dense Himalayan blackberry, but in areas where the Himalayan blackberry is less dominant, other shrubs occur including Pacific ninebark *(Physocarpus capitatus),* western azalea (*Rhododendron occidentale)* and California blackberry. The herbaceous layer consists of soft rush *(Juncus america),* cattail (*Typha* sp.), seep spring monkey-flower *(Mimulus guttatus),* water cress *(Nasturtium officinale),* giant horsetail *(Equisetum telmateia),* yellow flag iris *(Iris pseudacorus),* creeping buttercup *(Ranunculus repens),* tall flatsedge/nut sedge *(Cyperus eragrostis),* American brooklime *(Veronica americana),* small-fruited sedge *(Scirpus microcarpus),* and iris-leaved rush *(Juncus xiphioides).*

CDFG (2003) designates the Arroyo Willow Forests and Woodlands Alliance as a special community type. CDFG (2003) also gives this designation to community types that are "either known or believed to be of high priority for inventory in the California Natural Diversity Data Base (CNDDB)."

### White Alder Forest and Woodland Alliance

The White Alder Forest and Woodland Alliance at the Park is very similar to the Arroyo Willow Riparian Forests and Woodlands Alliance, described above, except that it is dominated by white alder rather than arroyo willow.

CDFG (2003) recognizes several sensitive vegetation associations within the White Alder Forest and Woodland Alliance. However, this vegetation type at the Park can best be classified as White Alder Association which is not considered a sensitive vegetation association by CDFG.

### California Annual Grassland Alliance

This vegetation community is present in the northernmost portion of the Park, just south of Bennett Street on either side of South Fork Wolf Creek. Annual grasses and forbs dominate the grasslands, but perennial grass species are also scattered through this grassland area. Non-native annuals such as soft chess (*Bromus hordaceous*), annual bluegrass (*Poa annua*), and Mediterranean barley (*Hordeum marinum* spp. *gussoneanum*) are common in these grasslands. The perennial bunchgrasses scattered through the grassland include non-native species such as orchardgrass (*Dactylis glomerata*) and tall fescue (*Festuca arundinacea*) as well as native perennials such as slender wheatgrass (*Elymus trachycaulus* ssp. *trachycaulus*), Idaho fescue (*Festuca idahoensis*), and red fescue (*Festuca rubra*).

The annual grasslands include a series of narrow irrigation ditches that appear to have been used in the past for irrigating pastureland. There are also small

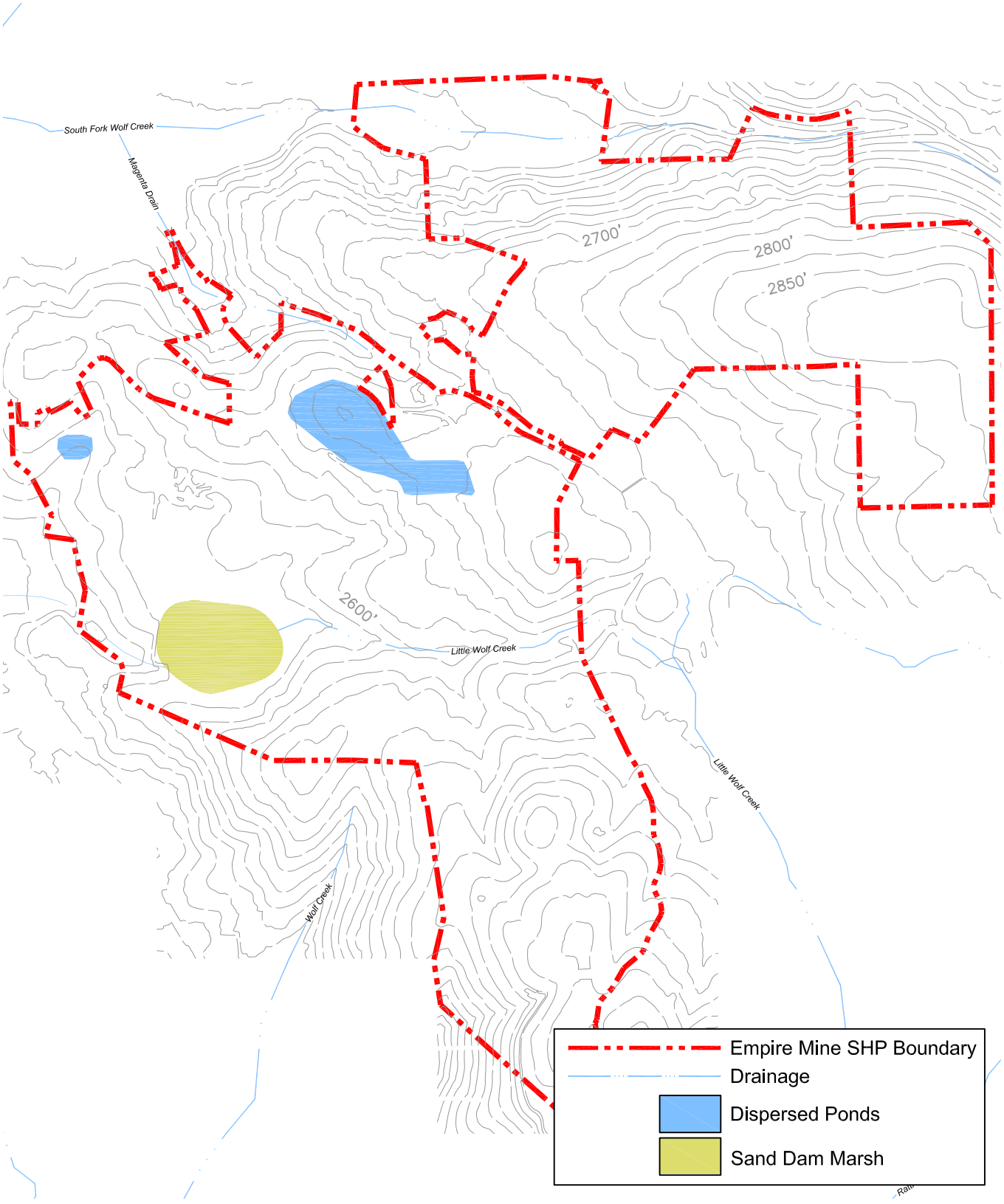
scattered patches in the annual grassland that are dominated by a low-growing rush (*Juncus* sp.) and may constitute wetlands, but were not mapped separately because the scale of the mapping effort did not allow for this.

Non-native annual grasslands are extensively naturalized in the valleys and foothills of California (Sawyer and Keeler-Wolf 1995); CDFG (2003) does not identify California Annual Grassland Alliance as a vegetation community of high inventory priority.

#### 4.3.1.3 Wildlife Habitat

URS mapped wildlife habitat over a majority of the Park in 2005; Vestra (2009a) mapped wildlife habitat within the Central Area in May and June 2008. In February, 2009, Berryman Ecological mapped portions of the Park that neither Vestra nor URS had previously mapped. Berryman Ecological created a habitat map for the entire property using data from the February 2009 mapping effort and incorporating Vestra and URS mapping (see Figure 4.3-2, Aquatic and Hydrologic Habitat). Vestra (2009a) recorded wildlife species observed while conducting reconnaissance-level surveys in the Central Area. Appendix E-2, Biological Characterization Report, provides a list of wildlife species Vestra observed during reconnaissance surveys.

California wildlife species are found in various habitats that satisfy each species requirement for food, water, and shelter. Habitat can be based upon specific associations of plant species, but can also include hydrologic features such as wetlands or streams, geologic features such as cliffs, rock outcroppings and caves, or artificial features such as abandoned buildings and disturbed terrain. Therefore, this section includes discussions of 'Habitat by Vegetation Type,' describing several habitat types at the Park that are defined by vegetation characteristics; 'Aquatic and Hydrologic Habitat Features,' describing aquatic and hydrologic features at the Park that can provide habitat value for plant and wildlife species; and 'Man-Made Upland Habitat Features,' describing man-made upland features at the Park that potentially provide wildlife habitat value.




SOURCE: NAIP (2005)
CONTOUR INTERVAL: 25'-0"

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0 ¼ mile

SCALE: 1" = ¼ mile

**Figure 4.3-2**
**Aquatic and Hydrologic Habitat**

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AND REMEDIATION PROJECT

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## Habitat by Vegetation Type

Several wildlife habitat types defined below are based upon vegetation characteristics. These are grouped into four categories: Forest Habitats, Montane Chaparral Habitat, Annual Grassland Habitat, and Montane Riparian Habitat. Within each of the four categories, habitat types are defined based upon the California Wildlife Habitat Relationship Database (CWHR) habitat classification system (CDFG 2008b). Each CWHR habitat type corresponds to a vegetation community described in the Vegetation section above. While the Vegetation section focuses on assemblages of plant species, the following focuses on wildlife habitat value for each vegetation type. Table 4.3-1, Crosswalk of Vegetation, Habitat, and Wetland/Waters Types, provides a 'crosswalk' between the different classification systems that are used to describe vegetation communities and wildlife habitat. The term crosswalk refers to a table of corresponding vegetation and habitat type names that are used in the different classification systems to describe plant communities and habitats within the Park.

## Forest Habitats

Forest is the predominant habitat type in the Park and can provide a diverse habitat for wildlife. Forested habitats are dominated by trees forming a relatively closed canopy cover (over-story) and typically include both an under-story shrub layer composed of shrubs, and saplings, and an herbaceous layer. Acorns, berries, grasses, forbs, and shrubs provide food and foraging habitat for many browsers and bird species, while the complex multilayered structure with adjacent open areas provides foraging habitat for many raptors and other predators. Amphibians and reptiles can use the leaf litter and woody debris in the under-story for cover.

Forest habitats in the Park include the following as categorized and described by CWHR: Ponderosa Pine Habitat, Sierran Mixed Conifer Habitat, and Montane Hardwood Habitat. These habitats are described below.

**TABLE 4.3-1**
**CROSSWALK* OF VEGETATION, HABITAT, AND WETLAND/WATERS TYPES**

| Vegetation Types | | Habitat Types | Wetlands and Waters of the U.S. |
|---|---|---|---|
| **CDFG List of California Terrestrial Vegetation Communities (CDFG 2003)** | **Sawyer Keeler-Wolf (1995)** | **CWHR Habitat Type (CDFG 2008b)** | **Vestra 2009(b) Wetland Delineation** |
| Ponderosa Pine Forests and Woodlands Alliance (Westside Ponderosa Pine Association) | Ponderosa Pine Series/Mixed Conifer Series | Ponderosa Pine/Sierran Mixed Conifer | N/A |
| Black Oak Forests and Woodlands Alliance (Black Oak Association) | Black Oak Series | Montane Hardwood | N/A |
| Whiteleaf Manzanita Association | Whiteleaf Manzanita Series | Montane Chaparral | N/A |
| Arroyo Willow Riparian Forests and Woodlands Alliance | Arroyo Willow Series | Montane Riparian | Margins of Perennial Stream, portions of Emergent Marsh |
| White Alder Forest and Woodland Alliance | White Alder Series | Montane Riparian | Margins of Perennial Stream, portions of Emergent Marsh |
| California Annual Grassland Alliance | California Annual Grassland Series | Annual Grassland | N/A |
| N/A | N/A | Riverine | Perennial Stream |
| N/A | N/A | Lacustrine | Seasonal Wetland |
| Not mapped due to scale of vegetation mapping | N/A | Freshwater Emergent Wetland | Emergent Marsh |

**Notes:**
* "Crosswalk" – a table of corresponding vegetation and habitat type names that are used in the different classification systems to describe plant communities and habitats within the Park.

- Ponderosa Pine Habitat corresponds to the vegetation community at the Park described in the Vegetation section as Ponderosa Pine Forest and Woodland Alliance. This habitat type is found on suitable mountain and foothill sites throughout California except in the San Francisco Bay area, the north coast area, south of Kern County in the Sierra Nevada and east of the Sierra Nevada crest. Ponderosa Pine Habitat sometimes provides important transitional or migratory habitat for deer (CWHR 2008b).
- Sierran Mixed Conifer Habitat is intermixed with the Ponderosa Pine Habitat in the portions of the Park mapped and described in the Vegetation section as Ponderosa Pine Forest and Woodland Alliance. This habitat type dominates the western middle elevation slopes of the Sierra Nevada, and occupies between 4.5 and 7.8 million acres in southern Oregon and California (CDFG 2008b). Black oak acorns, berries from a variety of shrubs, and a great number of grasses and forbs common to this habitat type provide the forage resource essential for wildlife.

- Montane Hardwood Habitat corresponds to the vegetation community described in the Vegetation section as Black Oak Forest and Woodland Alliance. This habitat type ranges throughout California mostly west of the Cascade-Sierra Nevada crest (CDFG 2008b). Wildlife species characteristic of Montane Hardwood Habitat include disseminators of acorns (e.g., scrub jay, Stellar's jay (*Cyanocitta stelleri*), acorn woodpecker (*Melanerpes formicivorus*), and those that use acorns as a major food source such as wild turkey, band-tailed pigeon (*Patagioenas fasciata*), California ground squirrel (*Spermophilus beecheyi*), dusky-footed woodrat (*Neotoma fuscipes),* black bear (*Ursus americanus*), and mule deer (*Odocoileus hemionus*). Many reptiles and amphibians are found on the forest floor in Montane Hardwood Habitat, such as relictual slender salamander (*Batrachoseps relictus*), rubber boa (*C. bottae*), western rattlesnake (*C. oreganus*), and California mountain kingsnake (*Lampropeltis zonata*).

### Montane Chaparral Habitat

Montane Chaparral habitat is composed of shrubby plants adapted to dry summers and moist winters. The chaparral habitat at the Park is categorized under the CWHR habitat classification system as Montane Chaparral, and corresponds with the vegetation community described in the Vegetation Section as Whiteleaf Manzanita Association.

This habitat type is associated with mountainous terrain from mid to high elevations (3,000-10,000 feet amsl: CDFG 2008b). Montane Chaparral is often indicative of disturbed areas, and over time will often succeed into Ponderosa Pine and Sierran Mixed Conifer Habitat types (CDFG 2008b). Deer and other herbivores often make extensive use of chaparral habitat. Montane Chaparral habitat provides summer range foraging areas, escape cover and fawning habitat for deer. Shrubs are important to many mammals, providing shade during hot weather and shelter in moderate temperature and high wind velocity in the winter. Montane Chaparral provides seeds, fruits, insects, protection from predators and climate, and singing, roosting and nesting sites for many bird species (CDFG 2009b).

### Annual Grassland Habitat

Grassland habitat is composed of various species of grasses and forbs. This vegetation community is found in the northernmost portion of the Park (see Figure 4.3-2). Because irrigated lawns have limited value as habitat for native plants and wildlife, they are not mapped as grassland habitat but as "other, buildings and landscaping" on Figure 4.3-2.

Annual Grassland Habitat occurs in patches of various sizes throughout the state (CDFG 2008b). Annual Grassland can provide habitats for many wildlife species. Rodents, such as deer mice and ground squirrels, and some bird species, such as savannah sparrows (*Passerculus sandwichensis*), western meadowlarks (*Sturnella neglecta*), and white-crowned sparrows (*Zonotrichia leucophrys*), are especially associated with grasslands. In addition, the presence of these species attracts predatory species to grasslands for foraging, including coyotes (*Canis latrans*), raptors, and snakes.

### Montane Riparian Habitat

Riparian habitat is typically found in the general vicinity of water bodies, occurring on or near the banks of water courses (brooks, streams, rivers, etc.) and adjacent to lakes or ponds. CWHR (CDFG 2008b) categorizes the type of riparian vegetation found at the Park as Montane Riparian Habitat, which corresponds with the vegetation communities described in the Vegetation section as Arroyo Willow Forest and Woodland Alliance and White Alder Forest and Woodland Alliance.

Montane Riparian Habitat occurs in the Klamath, Coast and Cascade ranges and in the Sierra Nevada south to about Kern and northern Santa Barbara Counties below 8,000 feet amsl (CDFG 2008b). Riparian habitats of all types in California support a high diversity of wildlife species, including special-status species such as the state listed willow flycatcher *(Empidonax traillii).* Riparian areas provide important sanctuary and travel corridors for wildlife because of their high structural complexity, water availability, and dense biomass/food availability. Many mammal species such as deer mice, deer, raccoons, and opossums *(Didelphis virginiana)* use riparian areas for the diverse food and water availability, and dense cover. Bats also use riparian areas for foraging. Many songbird species are associated with riparian areas for nesting and foraging including winter wrens *(Troglodytes troglodytes),* orange-crowned warblers *(Vermivora celata),* yellow warblers *(Dendroica petechia),* and song sparrows *(Melospiza melodia).* Reptilian and amphibian species can be found in these areas as well, including common garter snakes and California newts *(Taricha torosa).*

### Aquatic and Hydrologic Habitat Features

In addition to the habitat types described above based upon vegetation characteristics, Vestra identified several aquatic and hydrologic habitat features at the Park (see Figure 4.3-2). In some cases, the areas mapped as aquatic or hydrologic features on Figure 4.3-2 overlap with areas identified under a particular vegetation community on Figure 4.3-1; this is because the dominant over-story plant species define the vegetation classification, even where aquatic or hydrologic features may be found below the over-story. Aquatic and

hydrologic features in the Park include perennial streams, man-made conveyances, a seasonal pond, concrete pools, and an emergent wetland. These features are shown on Figure 4.3-2 and described below. Where possible, the Project Proponents have classified these features based upon the CWHR habitat classification system (CDFG 2008b).

Vestra (2009a) identified aquatic and hydrologic features during the process of conducting a focused wetland delineation in the Central Area. This focused level of investigation has not been conducted at the Park outside of the Central Area. The only hydrologic habitat feature identified outside the Central Area is South Fork Wolf Creek. There may be other, smaller hydrologic features located outside the Central Area that were not identified during the broader-scale vegetation and habitat mapping. Subsequent, project-specific investigations would be necessary to identify hydrologic features outside the Central Area.

### Riverine

Vestra (2009a and 2009c) and Berryman Ecological (2009) mapped two perennial streams within the Park: South Fork Wolf Creek and Little Wolf Creek. CWHR (CDFG 2008b) classifies perennial streams as Riverine Habitat. Wildlife species typically found in Riverine Habitat include fish, aquatic invertebrates, muskrat and beaver. Many species of insectivorous birds (swallows, swifts, flycatchers) forage over the open water of Riverine Habitat.

Both of the perennial streams at the Park flow into Wolf Creek, a significant tributary of the Bear River, which ultimately flows into the Sacramento River (see Figure 4.3-2). Little Wolf Creek enters the Park on the east side and flows west to its confluence with stormwater conveyance channels at the Sand Dam Area (see Figure 4.3-2), and then continues west out of the Park to its confluence with Wolf Creek. A diverse stratum of silt, woody debris, cobble, and fragmented granitic bedrock comprise the littoral substrate of Little Wolf Creek.

South Fork Wolf Creek enters the Park from the east and flows west where it eventually joins the main stem of Wolf Creek. This creek supports deep pools, riffles, and gradual runs. Woody debris, silt, and cobble comprise the littoral substrate. Both the South Fork Wolf Creek and Little Wolf Creek are approximately equal in size, averaging 1 foot deep and 4 feet wide.

### Man-Made Conveyances

The man-made conveyances at the Park include the Magenta Drain tunnel and various constructed drainage ditches. These hydrologic features do not fit within any particular CWHR habitat classification system.

The Magenta Drain was originally constructed to drain water from the Magenta Mine and was later extended to the Empire Mine main shaft. Water was pumped up the shaft into the constructed tunnel to where it discharges at the Magenta Drain portal. Montane Riparian Habitat consisting of willow (*Salix* sp.), cottonwoods (*Populus* sp.) and Himalayan blackberry occurs along the banks of the drain downstream of the Magenta Drain portal. Several hundred feet downstream from the portal, the drainage flows to an unnamed creek that flows through Woodpecker Ravine. Storm water flows into the creek at two drain inlets located on Race Street and mixes with water from the Magenta Drain. The combined source then flow through Memorial Park, and enters a buried storm drain at the west boundary of the Park and into South Fork of Wolf Creek at an unidentified underground location north-northwest of Memorial Park. The water flowing from the Magenta Drain portal is a combination of drainage from flooded underground mine workings and infiltrated surface drainage. Newmont has monitored continuous flow and water quality at the Magenta Drain since July 2006.

There are numerous man-made drainage ditches in the Park, but none were flowing during Vestra's 2008 May and June surveys. It is likely these ditches only flow during times of high rainfall in late winter or early spring. The drainage ditches were built to convey stormwater from the historic Cyanide Plant (Area 2) and Red Dirt Pile into the adjacent Sand Dam Area. These areas lack established vegetation and can accommodate large amounts of storm flows during the wet season. The ditches are constructed of large cobbles with concrete coating to smooth the surface and promote directed rapid water conveyance. Vegetation and wildlife activity in these drainages does not vary appreciably from that of adjacent uplands.

### Lacustrine

Stacy Lane Pond is a seasonal pond, which holds water for only a few months during the wet season (approximately October 15 through April 15). CWHR categorizes seasonal ponds as Lacustrine Habitat (CDFG 2008b). Stacy Lane Pond was dry during Vestra's first site visit in May 2008, but has potential to hold water up to a depth of 8 feet. The associated wetland area is approximately 0.39 acres. Water sources include precipitation and surface runoff from the surrounding drainage area. The surrounding vegetation consists of ponderosa pine, Himalayan blackberry and numerous grass species. Within the pond, there are willow and cottonwood trees, although Vestra did not map this area as a distinct vegetation type because of its small size. The substrate and bank soils are sandy, allowing for rapid infiltration of water. The littoral substrate consists of sand and woody debris.

## Freshwater Emergent Wetland

Freshwater Emergent Wetland is a habitat type defined by CWHR (CDFG 2008b) and characterized by erect, rooted herbaceous hydrophytes (water loving plants). Freshwater Emergent Wetland Habitat is found throughout California at virtually all elevations, but primarily below 7,700 feet amsl (CDFG 2008b). This is one of the most productive habitats in California, providing food, cover, and water for more than 160 species of birds and numerous mammals, reptiles, and amphibians (CDFG 2008b).

The Freshwater Emergent Wetland at the Park consists of approximately 16.8 acres. This wetland is associated with the Sand Dam Area, Area 4, which is located in the southwest section of the Park (see Figure 4.3-2). In the Sand Dam Area, tailings (fine and sand-like in consistency) predominate while waste rock piles consisting of cobble up to 14 inches in diameter are found in other portions of the Park.

Vestra determined during the May 2008 survey that approximately 90% of the surface area of the wetland had standing (or surface) water that was approximately 5 feet deep at its deepest point. When Vestra completed surveys in July 2008, surface water coverage was only 20%. By September 2008, there was no standing water in the wetland. Small upland patches within the Sand Dam wetland area are dominated by ponderosa pine, Himalayan blackberry, and manzanita. The lowest, most saturated portions of the wetland are dominated by common rushes (*Juncus* sp.), while the upper margins of the wetland are dominated by sedges (*Carex* spp.), willows, and cottonwoods.

## Concrete Pools

The concrete pools are found near the Borne cottage and contribute to an extensively decorated landscape (see Figure 4.3-2). Concrete pools do not closely fit any particular habitat type that CWHR defines, but can best be described as Urban (CDFG 2008b). Two of these pools are round, with fountains in the center, and are situated on a higher plateau adjacent to the cottage. These fountains are plumbed to a network of small, stair-stepping pools below on a tiered patio walk that eventually feed into a much larger pool located approximately 100 feet away. The pools have a maximum depth of approximately 2.5 feet and contain ornamental aquatic plants. The pools provide reproductive habitat for amphibians (primarily Pacific chorus frogs) with still, calm water and few predators. One additional concrete pool (2 feet by 4 feet in size) near the Cyanide Plant holds rainfall and provides similar habitat for the Pacific chorus frog reproduction.

## Man-Made Upland Habitat Features

In addition to the habitats defined by vegetation types and aquatic and hydrologic features, as described above, Vestra (2009a) identified several upland habitat types that are defined by non-vegetative features. These are described below.

## Mine Waste Rock

Waste rock is rock that has been mined, but not milled and consists of cobble up to 14 inches in diameter. Mine waste rock is mapped and characterized in Section 4.5, Geology and Soils; but is discussed here because they cause fragmentation of ponderosa pine forest. Waste rock can serve as denning habitat for small mammals, reptiles, and amphibians. The juxtaposition of forest and open habitat provides forage for wildlife species found within the forest, including raptors.

## Urban

The urban habitat at the Park consists of multiple historic buildings, water pipes, landscaped areas, and mining equipment. Some wildlife species have adapted to human disturbance, such as European starlings *(Sturnus vulgaris)* and house mice *(Mus musculus).* Some native species such as American robin *(Turdus migratorius),* Steller's and Western scrub jays *(Aphelocoma californica*), raccoons, and striped skunks *(Mephitis mephitis)* are tolerant of human disturbance as well.

## Mine Tunnels and Other Mine Structures

Tunnels and mine shafts in the Park provide habitat with a consistent temperature and moisture content. Wildlife could use these underground areas to escape aboveground conditions during the hot, dry summer months and/or cold, wet winter months. Mine tunnels and other mine structures can also provide nesting habitat for small mammals including bats, reptiles, and amphibians throughout the year.

## Native Revegetation Area

The Red Dirt Pile Area is the location of an ongoing native re-vegetation project. This site is dominated by grasses and forbs. Since this is not a naturally occurring vegetation community, the Project Proponents did not map this under any particular vegetation community but shows it on the habitat map (Figure 4.3-2) as "Other, Native Re-vegetation Area."

### Vegetation and Habitat Types for Each Remediation Area

Table 4.3-2, Habitat Types by Remediation Area, indicates the habitat types found at the 10 Identified Areas. These habitat types have been grouped into the following categories: Forest, Chaparral, Riparian and Aquatic.

**TABLE 4.3-2**
**HABITAT TYPES* BY REMEDIATION AREA**

| Identified Areas | Forest | Chaparral | Aquatic | Riparian | Other Upland Habitat |
|---|---|---|---|---|---|
| **Area 1:** Mine Yard and Stamp Mill Area | | | | | X |
| **Area 2:** Cyanide Plant Area | X | | | | X |
| **Area 3:** Conveyance Corridor and Adit Project | X | | X | | X |
| **Area 4:** Sand Dam Area | X | | X | X | X |
| **Area 5:** Historic Mine and Mill Sites | X | | | | X |
| **Area 6:** Magenta Drain Area | | | X | X | |
| **Area 7:** Stacy Lane Pond Area | X | | X | | X |
| **Area 8:** Historic Grounds Area | | | X | | X |
| **Area 9:** Residences and Residences' Yards | X | | | | X |
| **Area 10:** Trails | X | X | X | | X |

*** Habitat definitions:**
Forest = Ponderosa Pine Habitat, Sierran Mixed Conifer Habitat, Montane Hardwood Habitat
Chaparral = Montane Chaparral Habitat
Riparian = Montane Riparian Habitat
Aquatic = Riverine, Lacustrine, Freshwater Emergent Wetland, Concrete Pools
Other Upland Habitat = Mine Tailings, Developed (Urban), Mine Shafts

## 4.3.1.4 Wetlands and Waters of the U.S.

Vestra (2009c) conducted a Wetlands Delineation for the Central Area, depicted on Figure 4.3-3, Wetlands and other Waters of the U.S., in August of 2008. Vestra conducted this delineation using the routine on-site determination method described in the U.S. Army Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) and, where applicable, in accordance with methods identified in the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual for the Western Mountain Valley Coast Region (USACE 2006). Other waters of the United States were mapped and delineated in the field in accordance with the guidelines in the Regulatory Guidance Letter No. 05-05, dated December 7, 2005.

Under Section 404, the USACE regulates "Waters of the U.S.," which essentially includes all navigable waters and their tributaries, all wetlands adjacent to these waters, and all impoundments of these waters. Isolated wetlands are not subject to USACE jurisdiction.

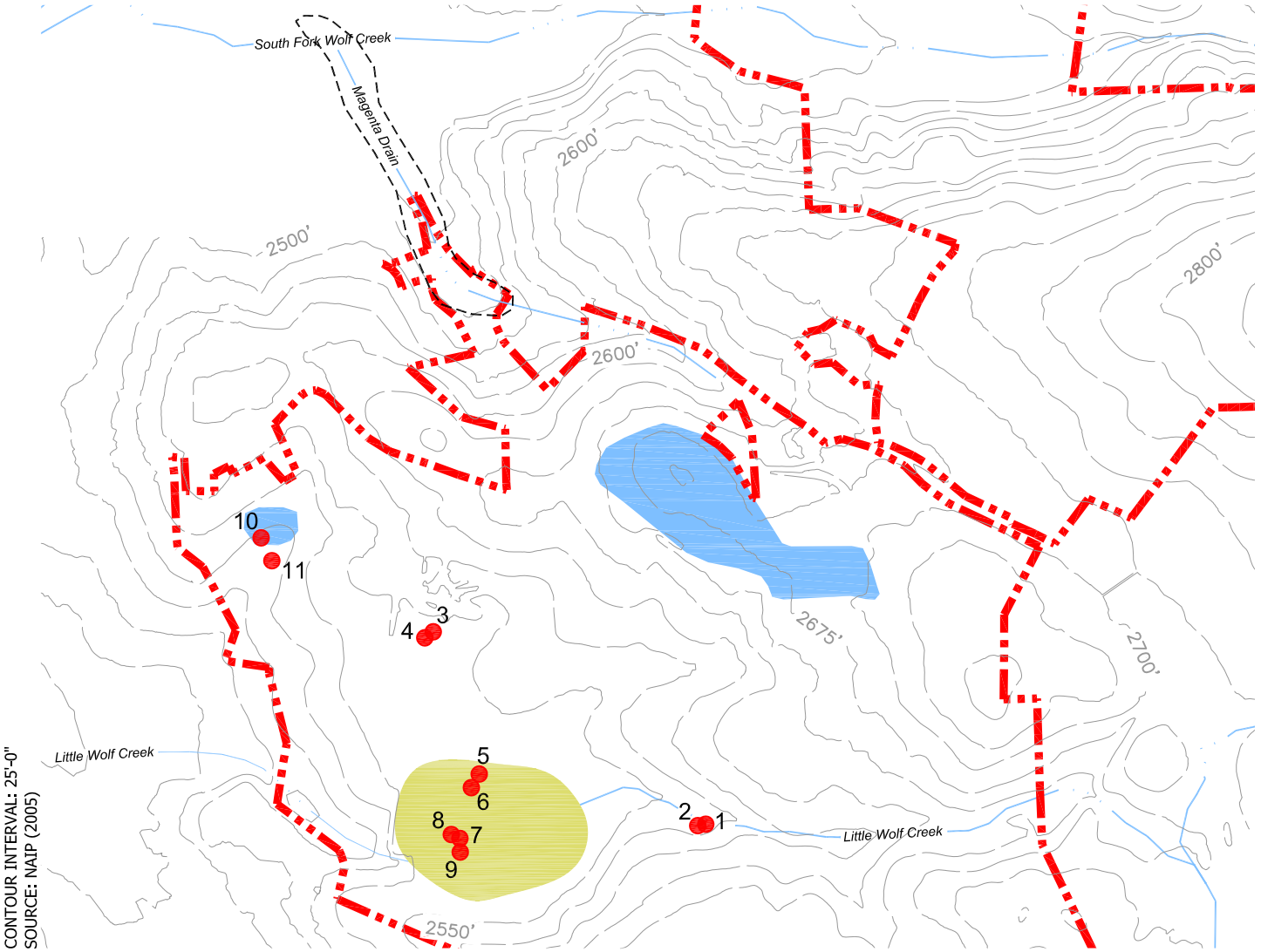
The USACE and USEPA jointly define "wetlands" under Section 404 of the Clean Water Act (CWA) as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. The USACE requires that three wetland parameters (i.e., hydrophytic vegetation, hydric soils, and wetland hydrology) are present at a potential wetland site for the site to be classified as a wetland.

Based upon the wetland delineation conducted by Vestra (2009b), two features in the Central Area, the Sand Dam and Stacy Pond, meet the three-parameter requirement identified above. Although Vestra (2009c) determined that Stacy Lane Pond (0.39 acres) exhibits wetland characteristics, it is not subject to USACE jurisdiction because it is isolated. Therefore, the Sand Dam wetland (16.3 acres) is the only USACE-jurisdictional wetland within Vestra's study area. However, isolated wetlands such as Stacy Lane Pond could still be considered Waters of the State and subject to regulation under the Porter-Cologne Act (see Section 4.3.2).

Additionally, Vestra (2009b) mapped two features (Little Wolf Creek and Magenta Drain) as other Waters of the U.S. In all, Vestra (2009b) determined that three features totaling 29.63 acres were USACE-jurisdictional features. These include 10.54 acres of perennial stream at Little Wolf Creek, 2.81 acres of perennial stream at Magenta Drain, and 16.3 acres of emergent wetland in the Sand Dam Area (Figure 4.3-3). Perennial stream and emergent wetland habitats are described above in the 'Aquatic and Hydrologic Habitat Features' subsection. Vestra's delineation and jurisdictional determination are preliminary and subject to USACE verification.

#### 4.3.1.5 Special-Status Species

For the purposes of this Draft PEIR, special-status species are those plants and animals that are legally protected under the federal Endangered Species Act (FESA), the California Endangered Species Act (CESA), local laws, or are otherwise considered sensitive by federal, state, or local resource conservation agencies and organizations. Specifically, this includes:




CONTOUR INTERVAL: 25'-0"
SOURCE: NAIP (2005)

Empire Mine SHP Boundary
Perennial Stream
Drainage Ditch
1 Wetland Data Point
Magenta Drain
Seasonal Ponds
Emergent Marsh

**Preliminary Delineation of Welands and Other Waters of the U.S.:**

| | Area (Acres) | |
|---|---|---|
| Wetlands: | Jurisdictional: | Non-Jurisdictional: |
| Wetlands Abutting RPW's (Sand Dam) | 16.28 | |
| Relatively Permanent Waters (RPW's) (Little Wolf Creek, Magenta Drain) | 13.35 | |
| Other Waters: | | |
| Non-Relatively Permanent Waters (Stacy Lane Pond) | | 0.39 |
| Drainage Ditches | | 0.33 |
| **Wetlands Total:** | **29.63** | |
| **Other Waters Total:** | | **0.72** |
| **Total Waters Mapped:** | **29.63** | **0.72** |

N

0 1000'-0"

SCALE: 1" = 1000'-0"

**Figure 4.3-3**
**Wetlands and Other Waters of the U.S.**

EMPIRE MINE SHP
SITE CHARACTERIZATION
AND REMEDIATION PROJECT

RESOURCE DESIGN TECHNOLOGY, INC.

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1. Species listed as state and/or federally Threatened or Endangered; Species considered as candidates for listing;
2. Species identified by USFWS and /or CDFG as Species of Special Concern;
3. Wildlife identified by CDFG as Fully Protected or Protected; and
4. Plants considered by the California Native Plant Society (CNPS) to be rare, threatened, or endangered (i.e., plants on CNPS Lists 1 and 2).

Special-status species that are not federally protected or state listed as threatened or endangered do not receive protection under ESA or CESA; however, impacts to these species could still be considered significant under CEQA if they are determined to be species of concern by the lead agency [14 CCR §15380(b)].

Vestra (2009a) generated a list of special-status plant and wildlife species that could occur in the Grass Valley USGS 7.5-minute quadrangle through queries of the CNDDB (CDFG 2008a), the CWHR (CDFG 2008b), and the CNPS Inventory of Rare and Endangered Plants (CNPS 2008). The results of these queries, and the parameters used in querying the CWHR model, are provided in the Biological Characterization Report (Vestra 2009a). Results are summarized in this and other subsections of the Biological Resources Draft PEIR Section.

Vestra (2009a) documented and mapped observations of special-status plants and wildlife in the Central Area. Surveys involved traversing the study area on foot along meandering cross-country transects; Appendix E-2, Biological Characterization Report, provides a list of wildlife species Vestra observed during reconnaissance surveys.

Based on the habitat types present at the Park and consultation with CDFG and the USFWS, Vestra conducted species-specific protocol-level surveys in 2008 for the following special-status species during the appropriate seasons:

- California red-legged frog (*Rana draytonii*) (Federally Threatened, California Species of Concern);
- California horned lizard (*Phrynosoma coronatum*) (Federal Species of Concern, California Species of Concern);
- Willow flycatcher (*Epidonax traillii brewsteri*) (California Endangered);
- Raptor species (Protected under California Fish and Game Code); and
- Northwestern pond turtle (*Actinemys marmorata marmorata*) (Federal Candidate for Listing, California Species of Concern).

Except for California red-legged frog and northwestern pond turtle, Vestra conducted these surveys in the Central Area. Vestra's surveys for California red-legged frog and northwestern pond turtle included all potentially suitable aquatic habitat for these species within one mile of the Central Area, thereby including the entire Park. Appendices E-1 and E-3 describe the results of the studies. Further, the following

discussion summarizes the results of the protocol-level surveys, along with information presented in Table 4.3-3, Potentially Occurring Special-Status Flora, and Table 4.3-4, Potentially Occurring Special-Status Fauna. These tables provide the common and scientific names for all special-status species evaluated by Vestra (2009a) for potential presence at the Park as well as information regarding the species federal and state sensitivity status, distribution, and preferred habitats. Tables 4.3-3 and 4.3-4 also provide Vestra's conclusions regarding the potential for each species to occur at the Park based upon biologists' knowledge of habitat preferences, record searches of the vicinity, and survey results.

Additionally, Vestra (2009a) determined that habitats within the Park have moderate to high potential of supporting 21 non-listed special-status wildlife species (including Cooper's hawk, California spotted owl, and 19 additional species not observed during the surveys). Table 4.3-5, Special-Status Species Potentially Present in the Park by Habitat Type, includes all special-status species (listed and non-listed) determined to have moderate to high likelihood for occurrence at the Park. This table identifies which species are potentially present within each habitat type located in the Park.

Special-status fish species are not present at the Park or in waterways downstream from the Park. As indicated in Table 4.3-5, the special status fish species the Project Proponents considered as potentially present at the Park are migratory salmonids (fish in the salmon family). These species would not be affected because they are incapable of reaching the Park via Wolf Creek drainage: a barrier at the Camp Far West Reservoir along the Bear River prevents their passage (CALFED 2005, City of Grass Valley 2008).

## TABLE 4.3-3
## POTENTIALLY OCCURRING SPECIAL-STATUS FLORA

| Common/Scientific Species Name | Status* Fed/State/CNPS | Distribution | Preferred Habitat/ Blooming Period | Habitat Suitability, Survey Results |
|---|---|---|---|---|
| **HIGH**** | | | | |
| Humboldt Lily *(Lilium humboldtii)* | –/–/4.2 | Foothills of the Sierra Nevada in Central California. | Cismontane woodlands, chaparral, and openings in coniferous forests. | Documented to occur in the Park. |
| True's Manzanita *(Arctostaphylos mewukka* ssp. *truei)* | –/–/4.2 | Butte, El Dorado, Placer, Nevada, Plumas, and Yuba Counties. | Chaparral and forest habitats. | Suitable habitat is present at the Park in the chaparral and forests, and the species has been documented elsewhere within the Park. |
| **MODERATE**** | | | | |
| Brownish-Beaked Rush *(Rhynchospora capitellata)* | –/–/2.2 | Scattered occurrences in northwestern California and northern Sierra Nevada foothills. | Mesic areas in lower and upper montane coniferous forest, meadows and seeps, freshwater marshes and swamps; 1,490-6,560 ft amsl. Blooming period: July-August. | Suitable habitat is present in the emergent wetland; none were observed during surveys of the Central Area. |
| Butte County Fritillary *(Fritillaria eastwoodiae)* | –/–/3.2 | Sierra Nevada foothills from Shasta to El Dorado Counties. | Chaparral, cismontane woodland, and openings in lower montane coniferous forest, sometimes on serpentine; 165-4,935 ft amsl. Blooming period: March-May. | Suitable habitat is present in the Park; none were observed during surveys of the Central Area. |
| **LOW**** | | | | |
| Bog Club-Moss *(Lycopodiella inundata)* | –/–/2.2 | Humboldt and Nevada Counties; also Nevada, Idaho, Oregon, Washington. | Coastal bogs and fens, mesic areas in lower montane coniferous forest, lake margins; 15-1,640 ft amsl. Fertile period: September. | Habitat marginal due to lack of mesic areas in forest; none were observed during surveys of the Central Area. |
| Brandegee's Clarkia *(Clarkia biloba* ssp. *Brandegeae)* | –/–/1B.2 | Butte, El Dorado, Nevada, Placer, and Yuba Counties. | Chaparral, cismontane woodland, often on roadcuts; 970-2,910 ft amsl. Blooming period: May-July. | Marginal habitat quality; none were observed during surveys of the Central Area. |
| Cedar Crest Popcorn-Flower *(Plagiobothrys glyptocarpus* var. *modestus)* | –/–/3 | Nevada County near Grass Valley. | Cismontane woodland, moist grassland; 295-3,280 ft amsl. Blooming period: April-June. | Habitat is marginal due to the lack of mesic areas in the forest habitats; none were observed during surveys of the Central Area. |

| Common/Scientific Species Name | Status* Fed/State/CNPS | Distribution | Preferred Habitat/ Blooming Period | Habitat Suitability, Survey Results |
|---|---|---|---|---|
| Red-Anthered Rush *(Juncus marginatus* var. *marginatus)* | –/–/2.2 | Northern Sierra Nevada foothills in Nevada County; Arizona and elsewhere. | Marshes and swamps; 2,700-3,280 ft amsl. Blooming period: July. | Marginally suitable habitat present in the emergent wetland; none were observed during surveys of the Central Area. |
| Scadden Flat Checkerbloom *(Sidalcea stipularis)* | –/E/1B.1 | Two occurrences near Scadden Flat, Nevada County. | Freshwater seep, wet meadow, montane freshwater marshes and swamps; 2,300-2,400 ft amsl. Blooming period: July-August. | Although suitable habitat is present, this is a well-known and highly range-restricted species that is unlikely to occur in the project area; none were observed during surveys of the Central Area. |
| **UNLIKELY TO OCCUR ON-SITE**** | | | | |
| Cantelow's Lewisia *(Lewisia cantelovii)* | –/–/1B.2 | Canyons of the Sacramento River, North and Middle Forks of the Feather River, and Yuba River. | Mesic, granitic, sometimes serpentine seeps in broadleaved upland forest, chaparral, cismontane woodland, lower montane coniferous forest; 1,260-4,300 ft amsl. Blooming period: May-October. | No suitable habitat is present due to the lack of suitable soils; none were observed during surveys of the Central Area. |
| Dubious Pea *(Lathyrus sulphureus* var. *argillaceus)* | –/–/3 | Klamath Ranges, North Coast Ranges, Sierra Nevada in Nevada County; Placer, Shasta, and Tehama Counties. | Cismontane woodland, lower and upper montane coniferous forest; 490-1,000 ft amsl. Blooming period: April. | Suitable habitat is present in proposed project area but it is outside the known elevation range for the species; none were observed during surveys of the Central Area. |
| Elongate Copper-Moss *(Mielichhoferia elongate)* | –/–/2.2 | Sierra Nevada from Nevada to Fresno Counties; Coast Ranges from Humboldt to Santa Cruz Counties. | Cismontane woodland in vernally moist areas, metamorphic rock; 1,640-4,265 ft amsl. | Suitable habitat is not present due to the lack of metamorphic rock; none were observed during surveys of the Central Area. |
| Follett's Monardella *(Monardella follettii)* | –/–/1B.2 | Nevada and Plumas Counties. | Lower montane coniferous forest on rocky, serpentinite soil; 1,970-6,560 ft amsl. Blooming period: June-September | Suitable soils are not present in the proposed Project area; none were observed during surveys of the Central Area. |
| Norris' Beard-Moss *(Didymodon norrisii)* | –/–/2.2 | Scattered occurrences in Contra Costa, Colusa, Humboldt, Lake, Madera, Monterey, Nevada, San Benito, Santa Cruz, Tehama, Tulare, and Tuolumne Counties; also in Oregon. | Intermittently wet areas in rock outcrops in cismontane woodland and lower montane coniferous forest; 1,970-5,580 ft amsl. | Suitable wet rocky habitat is not present in the proposed Project area; none were observed during surveys of the Central Area. |

| Common/Scientific Species Name | Status* Fed/State/CNPS | Distribution | Preferred Habitat/ Blooming Period | Habitat Suitability, Survey Results |
|---|---|---|---|---|
| Pine Hill Flannelbush *(Fremontodendron decumbens)* | E/R/1B.2 | Pine Hill area in El Dorado County, Grass Valley vicinity in Nevada County, Yuba County. | Rocky gabbro or serpentinite soils in chaparral, cismontane woodland; 1,395-2,500 ft amsl. Blooming period: April-July. | Suitable soil types are not present in the proposed project area; none were observed during surveys of the Central Area. |
| Red Hills Soaproot *(Chlorogalum grandiflorum)* | –/–/1B.2 | North and central Sierra Nevada Foothills: Amador, Placer, El Dorado, and Tuolumne Counties. | Serpentine or gabbro soils in chaparral, lower montane coniferous forest, and cismontane woodland; 800-3,840 ft elevation. Blooming period: May-June. | Suitable soil types are not present in the proposed Project area; none were observed during surveys of the Central Area. |
| Stebbin's Morning-Glory *(Calystegia stebbinsii)* | E/E/1B.1 | Northern Sierra Nevada foothills in El Dorado and Nevada Counties. | Gabbro or serpentinite soils in chaparral openings, cismontane woodland; 605-2,400 ft elevation. Blooming period: April-July. | Suitable soil types are not present in the proposed Project area; none were observed during surveys of the Central Area. |

***Status definitions:**

**Federal**

E = listed as endangered under the federal Endangered Species Act
T = listed as threatened under the federal Endangered Species Act
C = species for which USFWS has sufficient information on biological vulnerability and threat(s)–support issuance of a proposed rule–list, but issuance of the proposed rule is precluded
– = no listing

State

E = listed as endangered under the California Endangered Species Act
R = listed as Rare in California
– = no listing

**California Native Plant Society (CNPS)**

1B = List 1B species: rare, threatened, or endangered in California and elsewhere
2 = List 2 species: rare, threatened, or endangered in California, but more common elsewhere
3 = List 3 species: plants about which more information is needed to determine their status
4 = List 4 species: plants of limited distribution

**Threat Code Extensions**

.1 = seriously endangered in California (over 80% of occurrences threatened-high degree and immediacy of threat)
.2 = fairly endangered in California (20-80% occurrences threatened)

****Likelihood of Occurrence:** Based upon the presence of habitat at the Park, and habitat suitability.

## TABLE 4.3-4
## POTENTIALLY OCCURRING SPECIAL-STATUS FAUNA

| Common/Scientific Species Name | Federal/ State Status* | Distribution | Preferred Habitats | Habitat Suitability, Survey Results |
|---|---|---|---|---|
| **HIGH*** | | | | |
| California Spotted Owl (*Strix occidentalis occidentalis*) | --/CSC | Southern Cascades to Northern Sierra Nevada. From Burney, Shasta County, California, south to Lebec, Kern County, California. In California coastal range from Monterey County south to Santa Barbara County. Transverse Ranges and Peninsula Ranges south to northern Baja, California. | Nesting habitat requires hardwood or conifer forests with structural complexity, high canopy closure and presence of large trees. Foraging habitat more variable including intermediate-aged and older-aged stands. Tend to use less fragmented forest areas. | Pair of California spotted owls observed at the Park, but outside of the Central Area; habitat suitability is low within Central Area due to lack of mature forest stands. |
| Cooper's Hawk (*Accipiter cooperi*) | --/CSC | Southern Canada south throughout the U.S. and most of Mexico. | Deciduous, mixed and evergreen forests. Tolerant of human disturbance and fragmentation. Also uses urban and suburban areas. | Suitable habitat occurs at the Park; Cooper's hawk was observed. |
| **MODERATE** | | | | |
| American Marten (*Martes americana sierrae*) | FS/-- | Sierra Nevada and the Cascades. | Red fir, lodgepole pine, mixed conifer, subalpine conifer, Jeffrey pine, eastside pine. Require denning cavities in mature trees. | Suitable habitat occurs at the Park; no martens or marten sign was observed in the Central Area. |
| Black-Crowned Night Heron (*Nycticorax nycticorax*) | FS/-- | Throughout North America. | Along streams, reservoirs, marshes. Nest in dense foliage in trees and edges of marshes. | Suitable habitat occurs at the Park; no black-crowned night-herons were observed in the Central Area. |
| Burrowing Owl (*Athene cunicularia*) | FS/CSC | Throughout North America. Shasta County only in winter. | Dry grasslands and deserts, open ponderosa pine and juniper forests. | Annual grassland suitable; no burrowing owls were observed in the Central Area. |

| Common/Scientific Species Name | Federal/ State Status* | Distribution | Preferred Habitats | Habitat Suitability, Survey Results |
|---|---|---|---|---|
| California Horned Lizard (*Phrynosoma coronatum*) | FS/CSC | Historically, from Baja California north to the Bay Area. As far east as Shasta Reservoir but west of deserts and the Sierra Nevada. Current range more fragmented. | Sandy soils and low vegetation up to 8,000 ft amsl. Grasslands, coniferous forests, woodlands, and chaparral with open areas and patches of loose soil. | Habitat suitability may be low due to lack of loose soils; no California horned lizards were observed during protocol-level surveys which focused primarily on the Central Area. |
| California Mountain Kingsnake (*Lampropeltis zonata*) | FS/CSC | From northern Baja to southern Washington, in the south coast ranges and Mt. Diablo range, in the north coast range, east throughout the Sierra Nevada Mountains. | Habitat generalist: coniferous forest, oak-pine woodlands, riparian woodlands, chaparral, coastal sage scrub. | Suitable habitat occurs at the Park; no California mountain kingsnakes were observed in the Central Area. |
| Fringed Myotis (*Myotis thysandodes*) | FS/-- | Western U.S. except for the Central Valley of California and arid southwest. | Pinyon-juniper, hardwood conifer, and valley foothill hardwood habitats. Caves, mines, buildings, crevices for roosting. | Suitable habitat occurs at the Park; however, surveys for bats have not been conducted so presence is unknown at this time. |
| Horned Lark (*Eremophilus alpestris*) | --/CSC | Throughout North America. | Open habitats with short grass or barren ground. | Suitable habitat occurs at the Park; no horned larks were observed in the Central Area. |
| Loggerhead Shrike (*Lanius ludovicianus*) | Candidate/ CSC | Central Canada, all of the U.S. and Mexico. | Open habitats with scattered shrubs, trees or other perches. | Suitable habitat occurs at the Park; no loggerhead shrikes were observed in the Central Area. |
| Long-eared Myotis (*Myotis evotis*) | FS/-- | Western U.S. except the Central Valley in California and arid southwest. | Brush, woodland and forest habitats. Requires buildings, crevices, spaces under bark or hollow snags for roosting. | Suitable habitat occurs at the Park; however, surveys for bats have not been conducted so presence is unknown at this time. |
| Long-Eared Owl (*Asio otus*) | --/CSC | Breeds in northern Canada south to northeastern states and south as far as Baja in the West. Winters in southern Canada south through western states as far south as parts of Mexico. | Nests in dense vegetation adjacent to foraging habitat in open grasslands, shrublands, and forests. | Suitable habitat occurs at the Park; no long-eared owls were observed in the Central Area. |

| Common/Scientific Species Name | Federal/ State Status* | Distribution | Preferred Habitats | Habitat Suitability, Survey Results |
|---|---|---|---|---|
| Pallid Bat (*Antrozous pallidus*) | FS/CSC | Western North America. | Riparian habitats, arid deserts and grasslands near water. Rock crevices, hollow trees, caves and mines for roosting. | Suitable habitat occurs at the Park; however, surveys for bats have not been conducted so presence is unknown at this time. |
| Purple Martin (*Progne subis*) | --/CSC | Eastern and western U.S. | Open forests, woodlands and riparian areas. Requires cavities for nesting but will readily use bird houses. | Suitable habitat occurs at the Park; no purple martins were observed in the Central Area. |
| Ringtail (*Bassariscus astutus*) | --/CFP | Southwestern U.S., most of California, all of Mexico. | Shrubby habitats and shrub understories of forests. Snags with cavities and talus slopes with cavities used for denning. | Suitable habitat occurs at the Park; no ringtails were observed in the Central Area. |
| Short-Eared Owl (*Asio flammeus*) | --/CSC | Throughout North America south to central Mexico. | Open habitats, especially grasslands. | Suitable habitat is present within grasslands in northern portion of the Park; no short-eared owls were observed in the Central Area. |
| Sierra Nevada Mountain Beaver (*Aplodontia rufa californica*) | --/CSC | Sierra Nevada mountains and foothills. | Dense riparian areas and open, brushy stages of most forest types. | Suitable habitat at the Park; no mountain beavers were observed in the Central Area. |
| Spotted Bat (*Euderma maculatum*) | FS/CSC | Arid areas of the western U.S. | Mixed conifer, pine forests, pinyon-juniper, grasslands. Caves, crevices in cliffs and canyon walls for roosting. | Suitable habitat occurs at the Park; however, surveys for bats have not been conducted so presence is unknown at this time. |
| Townsend's Western Big-Eared Bat (*Corynorhinus townsendii*) | --/CSC | Range includes much of the western U.S. east to the western half of Texas. North to southern British Columbia and south through a large part of Mexico. | Roosting habitat includes mines, caves, buildings, and lava tubes. Foraging habitat includes open spaces over grasslands and forest canopies. | Suitable habitat occurs at the Park; however, surveys for bats have not been conducted so presence is unknown at this time. |

| Common/Scientific Species Name | Federal/ State Status* | Distribution | Preferred Habitats | Habitat Suitability, Survey Results |
|---|---|---|---|---|
| Tricolored blackbird (*Agelaius tricolor*) | FS/CSC | Central Valley and northeastern corner of California, small populations in Oregon and Nevada. | Nest near fresh water in adjacent vegetation, especially near marshes. Forage in grasslands and croplands. | Suitable habitat at the Park; no tricolored blackbirds were observed in the Central Area. |
| Western Mastiff Bat (*Eumops perotis*) | FS/CSC | Western North America. | Arid habitats. Roosts in crevices and shallow caves in cliffs and rock walls. | Suitable habitat occurs at the Park; however, surveys for bats have not been conducted so presence is unknown at this time. |
| Western Red Bat (*Lasiurus blossevillii*) | FS/-- | Western half of the U.S., most of Mexico, and throughout South America. | Found on habitat edges that offer trees for roosting and open areas for foraging. Often near riparian areas. | Suitable habitat occurs at the Park; however, surveys for bats have not been conducted so presence is unknown at this time. |
| Western Small-footed Myotis (*Myotis ciliolabrum*) | FS/-- | Arid areas of the western U.S. | Arid woody and brushy habitats near water. Require buildings, caves or mines for roosting. | Suitable habitat occurs at the Park; however, surveys for bats have not been conducted so presence is unknown at this time. |
| Yellow-Breasted Chat (*Icteria virens*) | --/CSC | Breeds sporadically throughout the U.S. and winters in parts of Mexico and Central America. In California, found primarily in the northern portion of the state. | Shrubby areas and early successional forests. Often found in riparian thickets. | Suitable habitat at the Park; no yellow breasted chats were observed in the Central Area. |
| Yellow Warbler (*Dendroica petechia*) | --/CSC | Northern portion of North America during breeding season; Central and South America during winter. | Wet, deciduous habitats, primarily riparian. | Suitable habitat at the Park; no yellow warblers were observed in the Central Area. |
| Yuma Myotis (*Myotis yumanensis*) | FS/CSC | Western U.S. | Open forests and woodlands near water. Buildings, caves, bridges, and mines for roosting. | Suitable habitat occurs at the Park; however, surveys for bats have not been conducted so presence is unknown at this time. |
| **LOW** | | | | |
| American Badger (*Taxidea taxus*) | --/CSC | North America, except eastern and southern states of the U.S. | Open forests, shrublands, and grasslands with friable soils. | Habitat marginal due to lack of friable soils; no badgers or badger sign was observed. |

| Common/Scientific Species Name | Federal/ State Status* | Distribution | Preferred Habitats | Habitat Suitability, Survey Results |
|---|---|---|---|---|
| California Red-Legged Frog (*Rana draytonii*) | FT/CSC | Endemic to California and northern Baja California. From Baja California north along the coast to Mendocino County and east through the northern Sacramento Valley into the foothills of the Sierra Nevada. | Humid forests, woodlands, grasslands, and streamsides with plant cover. Mostly in lowlands and foothills. Breeding habitat in permanent water sources: lakes, ponds, reservoirs, slow streams, marshes. | Habitat suitability at the Park is low due to poor water quality, long distances through high human use areas between aquatic features preventing dispersal, seasonal nature of some habitat features, and presence of predators in high numbers; no California red-legged frogs were observed during protocol-level surveys that included all suitable aquatic habitat at the Park. |
| Foothill Yellow-Legged Frog (*Rana boylii*) | FS/CSC | Ranges from northern Oregon west of the Cascades south along the coast to the San Gabriel Mountains, and south along the western side of the Sierra Nevada Mountains to Kern County. | Frequents shallow, slow, gravelly streams and rivers with sunny banks, in forests, chaparral, woodlands. Sea level to 6,700 ft. amsl. | Habitat suitability is low due to poor water quality, and dense canopy of riparian corridors along streams; no foothill yellow-legged frogs were observed. |
| Golden Eagle (*Aquila chrysaetos*) | FS/CSC | Western half of North America. | Open terrain for foraging including deserts, grasslands, chaparrals. Nest in cliffs. | Habitat suitability is low due to relatively small patches of open habitats and lack of cliffs for nesting; no Golden Eagles were observed in the Central Area. |
| Northern Goshawk (*Accipiter gentilis*) | FS/CSC | Holarctic distribution. Range in North America includes Alaska, Canada and northwestern U.S., south as far as northern half of California and as far south as New Mexico, Arizona, and part of Mexico. | Nests in most forest types within range. Prefer stands with old-growth trees, high canopy closure, and sparse ground cover. | Habitat suitability is low at the Park due to lack of mature forest stands. Some areas within the Park but outside of the Identified Areas could provide suitable habitat; no northern goshawks were observed in the Central Area. |
| Northern Harrier (*Circus cyaneus*) | --/CSC | Throughout North America. | Open habitats such as grasslands, meadows, open rangelands. | Habitat suitability is low at the Park due to small patch size of the annual grassland; no northern harriers were observed in the Central Area. |

| Common/Scientific Species Name | Federal/ State Status* | Distribution | Preferred Habitats | Habitat Suitability, Survey Results |
|---|---|---|---|---|
| Northwestern Pond Turtle (*Actinemys marmorata marmorata*) | Candidate/ CSC | San Francisco Bay north to Washington and British Columbia. West of the crest of the Cascades and the Sierra Nevada. | Ponds, lakes, rivers, streams, marshes and irrigation ditches with abundant vegetation with rocky or muddy bottoms. Prefers pools to shallower areas. | Suitable habitat occurs at the Park; no northwestern pond turtles were observed during protocol-level surveys that included suitable aquatic habitat throughout the Park. |
| Pacific Fisher (*Martes pennanti*) | Candidate/ CSC | Historically, throughout the Sierra Nevada north to Mount Shasta, west through the North Coast and Klamath ranges. | Coniferous and mixed forests with dense canopy closure and cavities for den establishment. | Habitat suitability is low due to lack of mature stands, fragmented forests patches, and open canopy; no pacific fisher or fisher sign was observed during surveys of the Central Area. |
| Peregrine Falcon (*Falco peregrinus*) | FS/CE | Throughout North America. | Riparian and other habitats near water; cliffs, ledges, mounds and banks used for nesting. | Habitat suitability is low due to lack of appropriate nesting habitat; no peregrine falcons were observed in the Central Area. |
| Prairie Falcon (*Falco mexicanus*) | --/CSC | Western half of the U.S. and central Mexico. | Open habitats, especially grasslands, but open shrublands as well. Require cliffs or bluffs for nesting. | Habitat suitability is low due to lack of appropriate nesting habitat and small patch size of open habitats; no prairie falcons were observed in the Central Area. |
| Sharp-Shinned Hawk (*Accipiter striatus*) | --/CSC | Breeds in northern Canadian and Alaska south to northeastern and northwestern U.S. Some breeding as far south as central Mexico and Central America. Wintering range throughout North and Central America. | Nest in most forest types within range preferring those with at least some conifer. Prefers dense forests with relatively closed canopy. Hunts in forests and along forest edges. | Habitat suitability is low at the Park due to open forests and canopy; no sharp-shinned hawks were observed in the Central Area. |
| Vaux's Swift (*Chaetura vauxi*) | --/CSC | Pacific Northwest, in California along the coast and the western slope of the Sierra Nevada. | Old growth forests with hollow trees and snags for nesting. | Habitat suitability is low at the Park due to lack of old-growth forest; no Vaux's swifts were observed in the Central Area. |

| Common/Scientific Species Name | Federal/ State Status* | Distribution | Preferred Habitats | Habitat Suitability, Survey Results |
|---|---|---|---|---|
| Willow Flycatcher (*Epidonax traillii brewsteri*) | --/CE | Breeds through much of the northern U.S. and parts of southern Canada. The subspecies in the project area breeds in the western Sierra Nevada and Cascades extending to the coast in northern California. Winters in coastal Mexico, Central America and South America. | Moist, shrubby areas near standing or running water. In California, especially associated with willow (*Salix* spp.) thickets. | Suitable habitat occurs at the Park; no willow flycatchers were observed during protocol-level surveys focused in the Central Area. No willow flycatchers exist for Nevada County below 5,400 feet amsl. |
| Wolverine (*Gulo gulo*) | --/CFP | Western U.S. | Mixed conifer, lodgepole pine, subalpine conifer, wet meadow, riparian. | Potentially suitable habitat occurs at the Park; very rare in California. The habitat is too fragmented because of surrounding urban land uses. |
| **NONE** | | | | |
| Black Swift (*Cypseloides niger*) | --/CSC | West coast of North and Central America, and the West Indies. In California found along the coast and the western Sierra Nevada. | Nest in moist places in cliffs above the ocean and behind waterfalls. Forage near water. | No suitable habitat occurs in project area due to lack of waterfalls and cliffs near water; no black swifts were observed in the Central Area. |
| Central Valley Steelhead (*Oncorhyncus mykiss*) | T/-- | Sacramento and San Joaquin Rivers and their tributaries, delta region | Aquatic, riverine | This species cannot reach riverine habitat at the Park because upstream migration halted at Camp Far West. |
| Central Valley spring run Chinook Salmon (*Oncorhynchus tshawytscha* | T/T | Sacramento and San Joaquin Rivers and their tributaries, delta region | Aquatic, riverine | This species cannot reach riverine habitat at the Park because upstream migration halted at Camp Far West. |
| Sierra Nevada Red Fox (*Vulpes vulpes necator*) | --/CT | Only found in the Sierra Nevada and Cascade ranges. | Conifer forests and alpine landscapes from 4,000 to 12,000 ft amsl. | The Park is too low in elevation for this species. |

| Common/Scientific Species Name | Federal/ State Status* | Distribution | Preferred Habitats | Habitat Suitability, Survey Results |
|---|---|---|---|---|
| Snowshoe Hare (*Lepus americanus klamathensis*) | --/CSC | Endemic to northern California | Montane riparian habitats with thickets of alder and willow. High elevations. | Elevation too low for this species. |
| Winter-run Chinook Salmon (*Oncorhynchus tshawytscha*) | E/E | Sacramento River and its tributaries, delta region | Aquatic, riverine | This species cannot reach riverine habitat at the Park because upstream migration halted at Camp Far West. |

***Status definitions:**

FE = Federally Endangered
FT = Federally Threatened
FS = Federally Sensitive
CE = California Endangered
CT = California Threatened
CFP = California Fully Protected
CSC = California Species of Special Concern

### 4.3.1.6 State and Federally Listed Plant and Wildlife Species

Vestra did not observe any state or federally listed plant or wildlife species during surveys in the Park, including the California red-legged frog and willow flycatcher focused surveys that were consistent with USFWS protocol. Based on these results, Vestra (2009a) concluded that state or federally listed species have a low likelihood of occurrence at the Park. However, listed species with the potential to occur in the Park based upon the presence of potentially suitable habitat, are addressed further below.

**California Red-Legged Frog (*Rana draytonii*)**

The CRLF is listed as federally threatened and as a state Species of Concern. CRLF are endemic to California and northern Baja, ranging from Mendocino County on the northern California coast south to Baja and east through the Sacramento Valley and the Sierra Nevada foothills. This species inhabits numerous riparian habitat types and is considered particularly terrestrial, covering relatively long distances from foraging to burrow sites. Reproduction success depends upon slow-moving water, with depths reaching 1.5 feet or greater. Fragile egg masses can be damaged by fast-moving water (CaliforniaHerps.com).

CDFG (2008) has documented the occurrence of CRLF approximately 8.5 miles from the Park (CNDDB 2008). Habitat quality at the Park is low for CRLF due to fragmentation of riparian corridors by roads and surrounding development, and an abundance of non-native predators. This species has been impacted by non-native predators, such as bullfrogs, some fish species, and human disturbance of suitable habitat. While future occupation at the Park by CRLF is possible, no CRLF were observed during protocol-level surveys; therefore, the likelihood is low.

## TABLE 4.3-5
## SPECIAL-STATUS SPECIES OBSERVED OR POTENTIALLY PRESENT IN THE PARK* BY HABITAT TYPE**

| Common/Scientific Species Name | Forest | Chaparral | Riparian | Grassland | Aquatic | Other Upland |
|---|---|---|---|---|---|---|
| **FAUNA** | | | | | | |
| American Martin (*Martes americana sierrae*) | X | | | | | |
| Black-Crowned Night Heron (*Nycticorax nycticorax*) | | | X | | X | |
| Burrowing Owl (*Athene cunicularia*) | | | | X | | |
| California Horned Lizard (*Phrynosoma coronatum*) | X | X | | | | |
| California Mountain Kingsnake (*Lampropeltis zonata* | X | X | X | X | | |
| California Red-Legged Frog (*Rana draytonii*) | | | X | | X | |
| California Spotted Owl (*Strix occidentalis occidentalis*) **O*** ** | X | | | | | |
| Cooper's Hawk (*Accipiter cooperi*) **O** | X | | | | | X (nests in trees) |
| Fringed Myotis (*Myotis thysandodes*) | X | | | | | X (potential roosting or maternal colonies in buildings, mine shafts) |
| Horned Lark (*Eremophilus alpestris*) | | | | X | | X |
| Loggerhead Shrike (*Lanius ludovicianus*) | | X | | X | | |

| Common/Scientific Species Name | Forest | Chaparral | Riparian | Grassland | Aquatic | Other Upland |
|---|---|---|---|---|---|---|
| Long-Eared Myotis (*Myotis evotis*) | **X** | **X** | | | | **X** (potential roosting or maternal colonies in buildings, mine shafts) |
| Long-Eared Owl (*Asio otus*) | **X** | **X** | | **X** | | |
| Merlin *(Falco columbarius)* | **X** | | | | | |
| Pallid Bat (*Antrozous pallidus*) | | | **X** | **X** | | **X** (potential roosting or maternal colonies in buildings, mine shafts) |
| Purple Martin *(*Progne subis*)* | **X** | | | | | **X** (potential nesting under eaves of buildings) |
| Ringtail (*Bassariscus astutus*) | **X** | **X** | **X** | | | |
| Short-eared Owl (*Asio flammeus*) | | | | **X** | | |
| Sierra Nevada Mountain Beaver (*Aplodontia rufa californica*) | **X** | | **X** | | | |
| Spotted Bat (*Euderma maculatum*) | **X** | | | **X** | | **X** (potential roosting or maternal colonies in buildings, mine shafts) |
| Townsend's Western Big-Eared Bat (*Corynorhinus townsendii*) | **X** | | | **X** | | **X** (potential roosting or maternal colonies in buildings, mine shafts) |
| Tricolored Blackbird (*Agelaius tricolor*) | | | | | **X** (Emergent wetland only) | |

| Common/Scientific Species Name | Forest | Chaparral | Riparian | Grassland | Aquatic | Other Upland |
|---|---|---|---|---|---|---|
| Western Mastiff Bat (*Eumops perotis*) | | | | | | **X** (potential roosting or maternal colonies in buildings, mine shafts) |
| Western Red Bat (*Lasiurus blossevillii*) | | | **X** | | | **X** (potential roosting or maternal colonies in buildings, mine shafts) |
| Western Small-Footed Myotis (*Myotis ciliolabrum*) | | | **X** | | | **X** (potential roosting or maternal colonies in buildings, mine shafts) |
| Willow Flycatcher (*Epidonax traillii brewsteri*) | | | **X** | | | |
| Yellow-Breasted Chat *(*Icteria virens*)* | | | **X** | | | |
| Yellow Warbler *(*Dendroica petechia*)* | | | **X** | | | |
| Yuma Myotis (*Myotis yumanensis*) | **X** | | **X** | | | **X** (potential roosting or maternal colonies in buildings, mine shafts) |
| **FLORA** | | | | | | |
| True's manzanita (*Arctostaphylos mewukka* ssp. *Truei)* | **X** | **X** | | | | |
| Humboldt Lily *(Lilium humboldtii)* | **X** | **X** | | | | |
| Brownish Beaked Rush (*Rhynchospora capitellata)* | | | | | **X** (excluding concrete pond) | |

| Common/Scientific Species Name | Forest | Chaparral | Riparian | Grassland | Aquatic | Other Upland |
|---|---|---|---|---|---|---|
| Butte County fritillary (*Fritillaria eastwoodiae)* | **X** | | | | | |
| Scadden Flat checkerbloom (*Sidalcea stipularis*) | | | | | **X** (seasonal pond and emergent wetland only) | |

*****This includes all non-listed special-status species with moderate to high likelihood of occurrence. This also includes the federally listed California red-legged frog, state listed willow flycatcher, and state listed Scadden Flat checkerbloom, which are not likely to occur at the Park presently. May potentially occupy the Park in the future.

******Habitat definitions:

Forest = Ponderosa Pine Habitat, Sierran Mixed Conifer Habitat, Montane Hardwood Habitat
Chaparral = Montane Chaparral Habitat
Grassland = Annual Grassland Habitat
Riparian = Montane Riparian Habitat
Aquatic = Riverine, Lacustrine, Freshwater Emergent Wetland, Concrete Pools
Other Upland Habitat = Mine Tailings, Developed (Urban), Mine Shafts

*****O** = Observed at the Park.

### Peregrine Falcon (*Falco peregrinus*)

The peregrine falcon is state listed as Endangered and federally listed as sensitive. Year-round populations of peregrine falcons are scattered throughout North America. They are one of the most wide-ranging species in the world, found throughout the northern hemisphere from the tundra to the tropics. They are found throughout California, except in the southeast desert and only occur in the Central Valley during winter. The foraging habitats of the peregrine falcon are diverse because they primarily eat small birds that they hunt from the air.. They often hunt and nest near water, especially marshes and nest on cliffs and ledges. Their decline was primarily due to Dichloro-Diphenyl-Trichloroethane (DDT) use; however, populations have recovered since DDT has been banned (Birds of North America 2009). Habitat in the Park is only marginal due to the scarcity of nesting habitat and high levels of human disturbance.

### Willow Flycatcher (*Empidonax traillii brewsteri*)

The willow flycatcher is state listed as Endangered. This species inhabits brushy areas within riparian corridors. This species nests in riparian brush and fledge their young as late as the middle of August. Due to the willow flycatcher's dependence upon riparian corridors for nesting habitat, the species has been negatively affected by many human activities that impact riparian habitat (Vestra 2009a). Flycatchers are difficult to distinguish from one another in the field by sight, but the willow flycatcher can be easily identified by its unique vocalization. The willow flycatcher's range includes most of the northern half of the United States. In California, the species is primarily restricted to the Sierra Nevada and the southeastern corner of the state (Vestra 2009a). Suitable habitat exists within the Park for the willow flycatcher; however, none were observed during the protocol-level surveys and most documented sightings have been observed at higher elevations (i.e., there are no Nevada County records of this species below 5,440 feet amsl (CNDDB 2008).

### Scadden Flat Checkerbloom (*Sidalcea stipularis*)

Scadden Flat checkerbloom is state listed as an Endangered plant. This species is threatened by altered hydrology, grazing, and non-native plants. Although suitable habitat is present in the Park, it is unlikely that this species occurs due to its highly restricted range (only three known occurrences range-wide, near Grass Valley).

#### 4.3.1.7 Non-Listed Special-Status Wildlife Species

Non-listed, special-status species are not state or federally listed as Threatened or Endangered, but are considered Species of Concern by either USFWS, CDFG, or both. Vestra staff (2009a) observed two non-listed special-status wildlife species (Cooper's hawk and California spotted owl) during Project surveys. Vestra staff (2009a) recorded a Cooper's hawk in the vicinity of the Sand Dam Area (Remediation Area 5) during raptor surveys, incidentally observed a Cooper's hawk during amphibian surveys near South Fork Wolf Creek, and observed a pair of California spotted owls at the Park on three different occasions. Staff completed surveys, consistent with CDFG protocol, to discern if these species were nesting; all behavioral evidence observed by Vestra and in follow-up surveys by a DPR-qualified biologist indicates that the owls are not currently nesting in the Park.

### 4.3.2 REGULATORY SETTING

The Park includes biological resources that are protected and/or regulated by state and federal laws, regulations, and policies. Prior to implementation of each Program Action included in the Draft PEIR, the Project Proponents must comply with these laws, regulations, and policies. Formal or informal consultation with Responsible and/or Trustee agencies could also be required prior to Project approval, issuance of permits, or Project implementation.

#### 4.3.2.1 Federal

**Federal Endangered Species Act**

Pursuant to the FESA (16 U.S.C §1531-1544), the USFWS has regulatory authority over projects that could result in the take of a federally listed species. Federally listed species are species that are listed by the USFWS as Threatened or Endangered: they do not include species designated as "Special Concern." "Take" is defined under Section 9 (16 U.S.C. §1538) of the FESA as killing, harming, or harassment of a listed species. Under federal regulation, harm is further defined to include habitat modification or degradation where it results in death or injury to wildlife by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering. If incidental take of a federally listed species is a possibility, then a Biological Opinion is prepared for take of listed species under Section 7 of the FESA (16 U.S.C. §1536). An incidental take permit can be authorized by the USFWS.

The only federally listed specie identified by Vestra as possibly occurring on the site is the CRLF. As described above, CRLF was not observed during protocol-level surveys (Vestra 2009b).

## Migratory Bird Treaty Act and Bald Eagle Protection Act

The Migratory Bird Treaty Act (MBTA) establishes a federal prohibition to pursue, capture, kill, possess, sell or purchase, transport, or export any migratory bird or any part, nest, or egg of any such bird (16 U.S.C. §703-12). In addition to protections under the FESA and the MBTA, bald and golden eagles are protected by the Bald Eagle Protection Act, which prohibits any form of "take," possession, or commerce in the birds, including disturbance. A permit from the Secretary of the Interior is required to possess, and/or transport of these eagles for wildlife protection, scientific study, resource development, or wildlife recovery operations.

The MBTA prohibition requires avoidance of disturbance to active migratory bird nests during the nesting season. Bald and golden eagles are unlikely to nest in the Park because appropriate foraging habitat is not present at the Park or in the vicinity.

## Clean Water Act

The federal Clean Water Act (CWA) was established in 1972 to maintain the chemical, physical, and biological integrity of the nation's waters (33 U.S.C. §1251, *et seq.*). It also was intended to provide a mechanism for regulating discharges of pollutants into the Waters of the U.S. and gave the USEPA authority to implement pollution control programs, such as setting wastewater standards for industry and water quality standards for all contaminants in surface waters.

Section 400 *et seq.* of the CWA applies to permits and licenses required for activities that may impact the nation's surface water (waters of the U.S.). Waters of the U.S. are subject to Section 404 of the CWA. Section 404 establishes a requirement to obtain a permit prior to any activity that involves any discharge of dredged or fill material into the waters of the U.S., including wetlands. In general, if the fill to be placed into Waters of the U.S. is limited to an area of no more than ½ acres, such fill can be approved through the USACE Nationwide Permit (NWP) program. USACE districts use NWPs to authorize categories of activities with minimal effects on the aquatic environment. USACE is responsible for implementing regulatory control and guidance using two statutory authorities: the Rivers and Harbor Act (Sections 9 and 10), which governs specified activities in "navigable waters" of the United States; and the CWA (Section 404), which governs specified activities in "other waters of the United States" (USACE 2009).

The USACE defines wetlands as lands that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and

under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Typically, USACE jurisdictional wetlands meet three criteria: hydrophytic vegetation, hydric soils, and wetland hydrology.

Activities that could result in any discharge into navigable waters are also covered under CWA Section 401. The California State Water Resources Control Board (SWRCB) and RWQCB enforce Section 401 of the federal CWA, including administration of the NPDES permits for various discharges into Waters of the U.S. (CWA §402). The new National Pollution Discharge and Elimination System (NPDES) Stormwater Phase II requires implementation of BMPs to maintain water quality by controlling run-off from construction and post-construction operations. A NOI to discharge stormwater is filed with the SWRCB when a project is subject to a NPDES permit and a Stormwater Pollution Prevention Plan (SWPPP) must be approved prior to the start of work (for ground disturbance over 1 acre in size) (see Section 4.7, Hydrology and Water Quality, for additional information regarding NPDES requirements).

### 4.3.2.2 State

#### California Endangered Species Act

Pursuant to the CESA (Fish and Game Code §§ 2050 *et seq*.), an incidental take permit is required for projects that could result in the "take" of state-listed Threatened or Endangered species. Take of a species, under CESA, is defined as an activity that would directly or indirectly kill an individual of a species. It does not include "harm" or "harass" as provided under the FESA. As a result, the threshold for take under CESA is less stringent under the state (i.e., habitat modification is not necessarily considered take under CESA). CDFG has the authority to issue an incidental take permit under Section 2081 or 2080.1 of the Fish and Game Code.

#### Porter-Cologne Water Quality Control Act

The state of California has separate authority under the Porter-Cologne Water Quality Control Act (Division 7, §§ 1300 *et seq.)* to regulate discharges of dredge and fill materials by issuing Waste Discharge Requirement (WDRs) or waivers of WDRs. Discharges that have been permitted under CWA Section 404 and have obtained CWA 401 Certifications (see above) are covered under the General WDRs. However, "isolated waters" that are not subject to USACE jurisdiction must receive WDRs from the appropriate RWQCB independently. For discharges into isolated waters not greater than 0.20 acres, a NOI and mitigation plan must be submitted to the RWQCB to comply with a General WDR pursuant

to WQ Order #2004-0004-DWQ. If the discharge does not qualify for a General WDR, a Report of Waste Discharge must be filed with the RWQCB using the 401 certification application, and the applicant must receive WDRs from the RWQCB prior to discharge.

Based upon Vestra's (2009c) wetland delineation, the Stacy Lane Pond wetland is isolated and, therefore, may not be subject to USACE jurisdiction. This wetland is under 0.20 acres and discharge could therefore be addressed through a General WDR.

**California Fish and Game Code: Raptor Protection**

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. This prohibition requires avoidance of disturbance to active raptor nests during the nesting season. Cooper's hawk and spotted owl are raptor species that have been observed in the Park; however, other raptor species could potentially be present.

**California Fish and Game Code: Section 1600**

An entity proposing an activity that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the CDFG must receive a Lake or Streambed Alteration Agreement permit from the CDFG pursuant to Section 1601 of the California Fish and Game Code. Typically, this requirement applies to any work undertaken within the 100-year floodplain of a stream or river and associated riparian areas. Construction activities within the channel of Little Wolf Creek, South Fork Wolf Creek are subject to CDFG's Section 1601 jurisdiction. Magenta Drain and/or the drainage ditches could be subject to the jurisdiction of the CDFG, pursuant to Section 1601 of the Fish and Game Code.

### 4.3.2.3 Local

DPR is exempt from local regulations, including general plans, specific plans, and zoning ordinances (California Constitution Article XI Section 7); however, the Project Proponents must comply with the Park's General Plan, as well as applicable state and federal rules and regulations governing historic buildings, structures, and districts and any local regulations applicable to impacts located outside the Park boundaries.

## 4.3.3 THRESHOLDS OF SIGNIFICANCE

The following thresholds have been prepared based on Appendix G and Section 15065 of the State CEQA Guidelines. The Project would have a significant impact on biological resources if it will:

- Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a sensitive, candidate, or special-status species in local or regional plans, policies, or regulations, or by the CDFG or the USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFG or the USFWS;
- Have a substantial adverse effect on federally protected wetlands, as defined by CWA §404, 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 Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

## 4.3.4 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

### 4.3.4.1 Programmatic EIR Impact Assessment

To identify potentially significant impacts resulting from Program Actions, each proposed Program Action was assessed against the significance thresholds listed in Section 4.3.3. Table 4.0-1, Proposed Program Actions and Anticipated Project Actions at the Park, summarizes the results of the impact analysis, and assesses reasonably foreseeable impacts that could occur to each of the identified environmental resources. The Program Actions are described in detail in Section 2.6.3 of the Draft PEIR. The discussion below lists each type of potential biological impact and provides an analysis of potential impacts from each Program Action, assesses the significance of each impact, and if necessary, identifies measures that would mitigate impacts to a level below significance. This section provides a biological impact analysis at a programmatic level.

**Impact 4.3-1: Program Actions at the Park Could Have a Substantial Adverse Effect, Either Directly or Through Habitat Modification, on Species Identified as Sensitive, Candidate, or Special-Status Species in Local or Regional Plans, Policies, or Regulations, or by the CDFG or the USFWS**

**Impact 4.3-1(A): Program Actions at the Park Could Have a Substantial Adverse Effect, Either Directly or Through Habitat Modification, on California Red-Legged Frog (CRLF)**

Vestra (2009b) did not observe CRLF in the Park during protocol-level surveys, and the probability that this species occurs at the Park is low. However, if CRLF are present in the area at the time of construction, then Project Actions could result in the crushing of individuals; disruption of normal breeding, feeding, and sheltering behavior; or modification of habitat. In addition, removal or modification of vegetation within suitable habitat could result in loss of protective cover and shading for this species. The following Project Actions could potentially result in take of CRLF if present in the Remediation Areas during Project implementation:

- Operation of heavy construction equipment;
- Mobilization and demobilization of heavy construction equipment to the Park;
- Grading, boring, excavating, drilling and blasting, and scarifying work;
- Removal of trees and other vegetation;
- Construction of access roads; and
- Construction of ancillary structures to the water treatment facility.

As shown in Table 4.0-1, twelve of the thirteen remediation options would utilize one or more of the Project Actions that could potentially result in take of CRLF if this species is present in the Project area during implementation of construction activities. In addition to the remediation options, other Program Actions could utilize one or more of the above-listed Project Actions.

Standard Project Requirement BIO-3 states that a biologist that is approved by the USFWS to work with CRLF (USFWS-approved biologist) will conduct a training session to familiarize all construction personnel with identification of CRLF and other sensitive species, their habitat, general provisions and protections afforded by the Endangered Species Act, measures implemented to protect the CRLF and other sensitive species, and a review of Project boundaries. During this training, all remediation personnel will be provided with species identification cards that include species photos for the CRLF. All construction personnel and subcontractors will complete the training before they are authorized to work at the Park.

Further, the Project Proponents will designate an official point of contact (POC) to be at the Park during Program Actions in case a CRLF is found. If a CRLF is found on-site, all work in that location will be temporarily halted and diverted to another location until the DPR's State Representative is contacted and the USFWS-approved biologist and the USFWS are consulted for further direction.

Additionally, a USFWS-approved biologist will be present at all times during installation and removal of a temporary stream crossing at Little Wolf Creek, if and when needed.

CRLF has a low likelihood of occurrence at the Park; however, implementation of Standard Project Requirement BIO-3 would ensure that take of CRLF is avoided during any of the above Project Actions. Because there would be no take of CRLF, impact to CRLF would be less than significant.

**Level of Significance Before Mitigation:** Less than Significant

**Mitigation Measures:** None Required

**Impact 4.3-1(B): Program Actions at the Park Could Have a Substantial Adverse Effect, Either Directly or Through Habitat Modification, on Willow Flycatcher**

Vestra (2009a) identified three state-listed species that could potentially occur in the Park: peregrine falcon, willow flycatcher, and Scadden flat checkerbloom. Willow flycatcher was not observed during protocol-level surveys; Vestra determined that this species currently has a low potential for occurrence at the Park (Vestra 2009a). However, willow flycatcher could potentially occupy riparian habitat in the Park in the future, in which case Program Actions within riparian habitat could potentially disturb or destroy nests and adversely impact habitat; therefore, resulting in take.

The following Project Actions could potentially result in take of willow flycatcher if this species is present in Remediation Areas during Project Actions:

- Operation of heavy construction equipment;
- Transportation of contaminated soils leaving the Park and importation of clean fill material entering the Park;
- Mobilization and demobilization of heavy construction equipment to the Park;
- Demolition and/or removal of any structures, including temporary facilities;
- Importation of supplies and materials that could be used for remediation activities;
- Temporary and permanent fencing installation;

- Grading activities;
- Boring activities;
- Excavation activities;
- Blasting activities;
- Scarifying activities;
- Planting and seeding activities;
- Dredging and sediment removal;
- Stormwater BMP installation and maintenance activities;
- Physical contact with cultural and surface water resources;
- Removal of trees and other vegetation;
- Construction of ancillary structures, including utilities for either a temporary or permanent active water treatment facility;
- Construction and installation of permanent exclusion barriers; and/or
- Construction and maintenance of access roads.

As shown on Table 4.0-1, twelve of the thirteen remediation options would utilize one or more of the Project Actions that potentially could result in take of willow flycatcher if this species is present. Other Program Actions could also utilize one or more of the above-listed Project Actions.

Per Standard Project Requirement BIO-4, all Project Actions with the potential to affect nesting birds (as determined by a DPR-qualified biologist) will not occur during the breeding season (March 1 – August 31). If Project Actions are required during the California Spotted Owl breeding season (March 1 - August 31), BIO-4 provides that protocol-level surveys will be done to determine nesting status will be required. If the owl pair is determined to be non-breeding, Program Actions will be permitted. If the owl pair is determined to be breeding, no Project Actions with the potential to create noise disturbance will be allowed within 1,000 feet of the active nest until after the young have fledged and have the ability to fly out of the area of disturbance, as determined by a DPR-qualified biologist. If site conditions do not allow for a buffer of 1,000 feet, the Project Proponents will consult with the USFWS and CDFG, as appropriate.

Additionally, BIO-4 states that if Project Actions that could potentially cause take of other nesting bird species (as determined by a DPR-qualified biologist) are necessary during the breeding season (March 1 - August 31), pre-construction surveys will be required. If nesting sensitive birds, raptors, and/or migratory birds are found at the Park, a buffer area of 1,000 feet, 250 feet or 100 feet, respectively, will be established around the nest(s); no Project Actions that could potentially cause nest failure will be permitted until the nest is vacated and the juveniles have fledged, as determined by a DPR-qualified biologist. BIO-4 provides that at the discretion of a DPR-qualified

biologist, Project Actions will be monitored to ensure that impacts to nesting sensitive birds, raptors, and/or migratory birds are minimized.

Per Standard Project Requirement BIO-5 (provided in Table 2.0-1), the Project Proponents and/or Construction Contractor will not remove any trees equal to or greater than 15-inches dbh unless first inspected by a DPR-qualified biologist and determined to be unsuitable as nesting habitat for California spotted owls and other sensitive birds.

Because the Project Proponents will avoid take of willow flycatchers and the Program Actions will result in a net improvement to habitat quality, impacts to willow flycatcher would be less than significant. Furthermore, the Program Actions would ultimately reduce levels of contaminants in the riparian habitat and improve habitat value for this species.

**Level of Significance Before Mitigation:** Less than Significant

**Mitigation Measures:** None Required.

**Impact 4.3-1(C): Program Actions at the Park Could Have a Substantial Adverse Effect, Either Directly or Through Habitat Modification, on Native Vegetation Potentially Supporting Unlisted Special-Status Species**

Two special-status wildlife species, Cooper's hawk and California spotted owl, have been observed within forested habitat in the Park. Additionally, there are 24 non-listed special-status wildlife species that were not observed in the Park during the 2008 surveys, but have a moderate potential for occurrence within various vegetation communities. Table 4.3-6, Special-Status Species Potentially Present at the Park by Area, indicates the special-status species potentially occurring in each of the vegetation communities present in the Park.

The following Project Actions could result in removal or degradation of vegetation communities which potentially support the special-status species listed in Table 4.3-6:

- Operation of heavy construction equipment;
- Transportation of contaminated soils leaving the Park and importation of clean fill material entering the Park;
- Mobilization and demobilization of heavy construction equipment to the Park;
- Demolition and/or removal of any structures, including temporary facilities;
- Importation of supplies and materials that could be used for remediation activities;
- Temporary and permanent fencing installation;

- Grading activities;
- Boring activities;
- Excavation activities;
- Blasting activities;
- Scarifying activities;
- Dredging and sediment removal;
- Stormwater BMP installation and maintenance activities;
- Physical contact with cultural and surface water resources;
- Removal of trees and other vegetation;
- Construction of ancillary structures, including utilities for either a temporary or permanent active water treatment facility;
- Construction and installation of permanent exclusion barriers; and
- Construction and maintenance of access roads.

As shown on Table 4.0-1, twelve of the thirteen remediation options would utilize one or more of the Project Actions which potentially could result in loss or degradation of habitat for special-status species. In addition, other Program Actions could utilize one or more of the above-listed Project Actions.

Per Specific Project Requirement BIO-7, prior to implementation of Program Actions, the Project Proponents will determine and use the minimum area necessary for Program Actions, including staging and access, and place orange construction fencing or flagging around the boundaries of the proposed work area. Existing disturbed areas will be utilized to the extent possible. Unless prior approval is obtained from DPR, Remediation personnel will minimize habitat disturbance by remaining within the designated work area(s).

Per Standard Project Requirement HYDRO-1 the Project Proponents and/or Construction Contractor would prepare and submit a Storm Water Pollution Prevention Plan (SWPPP) prior to the start of Program Actions involving ground disturbing activities, that identifies the temporary and permanent Best Management Practices (BMP) to be used in all Remediation Areas, to reduce or eliminate the discharge of soil, surface water runoff, and pollutants during excavation, grading, aggregate cover installation, and any other ground disturbing activities. The SWPPP will also include BMPs for hazardous waste and contaminated soil management, and a Spill Prevention and Control Plan (SPCP).

The Standard and Specific Project Requirements described above would minimize impacts to habitat for special-status species. However, unavoidable loss or disturbance of sensitive species habitat would be considered a potentially significant impact.

**Level of Significance Before Mitigation:** Potentially Significant

**Mitigation Measures:** Mitigation Measure 4.3-1: Restoration

Following temporary disturbance of habitat that occurs as a result of Program Actions, the Project Proponents will revegetate disturbed areas with locally-collected native plant species appropriate to the Remediation Area and planted to result in species composition that is similar to the pre-construction condition at the Park. Restoration efforts will be in compliance with the Project Proponent's current policies. Additionally, aquatic and hydrologic features will be restored to pre-project conditions.

**Level of Significance After Mitigation:** Less than Significant

With implementation of the Mitigation Measure 4.3-1, the only long-term loss of habitat would result from construction of access roads and utilities. This long-term impact is expected to be minimal compared with the acreage of habitat that would be maintained in the Park. Thus, impacts to habitat, with the proposed mitigation measures, would be a less than significant impact.

## TABLE 4.3-6
## SPECIAL-STATUS SPECIES POTENTIALLY PRESENT AT THE PARK BY AREA

| | REMEDIATION AREAS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Area 1: Mine Yard and Stamp Mill Area | Area 2: Cyanide Plant Area | Area 3: Conveyance Corridor and Adit Project Area | Area 4: Sand Dam Area | Area 5: Historic Mine and Mill Areas | Area 6: Magenta Drain Area | Area 7: Stacy Lane Pond Area | Area 8: Historic Grounds Area | Area 9: Residences and Residences' Yards Areas | Area 10: Trails Areas |
| **FLORA** | | | | | | | | | | |
| Brownish Beaked Rush (*Aquatic, excluding concrete pools*) | | X | X | X | | X | X | | | X |
| Butte County Fritillary (*Forest*) | | X | X | X | X | | X | | X | X |
| Humboldt lLily (*Forest, Chaparral*) | | X | X | X | X | | | | X | X |
| True's Manzanita (*Forest, Chaparral*) | | X | X | X | X | | | | X | X |
| Scadden Flat Checkerbloom (*Aquatic, only including Emergent Wetland and Seasonal Pond*) | | | | X | | | X | | | |
| **FAUNA** | | | | | | | | | | |
| American Marten (*Forest*) | | X | X | X | X | | | | X | X |
| Black-Crowned Night Heron (*Riparian, Aquatic*) | | X | X | X | X | X | X | X | X | X |
| Burrowing Owl (*Grassland*) | | | | | | | | | | |
| California Horned Lizard (*Forest, Chaparral*) | | X | X | X | X | | | | X | X |
| California Mountain Kingsnake (*Forest, Chaparral, Riparian, Grassland*) | | X | X | X | X | X | X | X | X | X |

| | REMEDIATION AREAS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Area 1: Mine Yard and Stamp Mill Area | Area 2: Cyanide Plant Area | Area 3: Conveyance Corridor and Adit Project Area | Area 4: Sand Dam Area | Area 5: Historic Mine and Mill Areas | Area 6: Magenta Drain Area | Area 7: Stacy Lane Pond Area | Area 8: Historic Grounds Area | Area 9: Residences and Residences' Yards Areas | Area 10: Trails Areas |
| California Red-Legged Frog (*Riparian, Aquatic*) | | X | | | | | | | | |
| California Spotted Owl (*Forest*) | | X | X | X | X | | | | X | X |
| Cooper's Hawk (*Forest, Other Upland in trees*) | X (trees) | X | X | X | X | | | | X | X |
| Fringed Myotis (*Forest, Buildings, Mine Shafts*) | X | X | X | X | X | | | | X | X |
| Horned Lark (*Grassland*) | | | | | | | | | | |
| Loggerhead Shrike (*Grassland*) | | | | | | | | | | X |
| Long-Eared Myotis (*Forest, Buildings, Mine Shafts*) | X | X | X | X | X | | | | X | X |
| Long-Eared Owl (*Forest, Chaparral, Grassland*) | | X | X | X | X | | | | X | X |
| Merlin (*Forest*) | | X | X | X | X | | | | X | X |
| Pallid Bat (*Forest, Buildings, Mine Shafts*) | X | X | X | X | | X | X | X | | X |
| Purple Martin (*Forest, Buildings*) | X | X | X | X | X | | | | X | X |
| Ringtail (*Forest, Chaparral, Riparian*) | | X | X | X | X | | | | X | X |

| | REMEDIATION AREAS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Area 1: Mine Yard and Stamp Mill Area | Area 2: Cyanide Plant Area | Area 3: Conveyance Corridor and Adit Project Area | Area 4: Sand Dam Area | Area 5: Historic Mine and Mill Areas | Area 6: Magenta Drain Area | Area 7: Stacy Lane Pond Area | Area 8: Historic Grounds Area | Area 9: Residences and Residences' Yards Areas | Area 10: Trails Areas |
| Sierra Nevada Mountain Beaver (*Forest, Riparian*) | | X | X | X | X | X | X | X | X | X |
| Spotted Bat (*Forest, Buildings, Mine Shafts*) | X | X | X | X | X | | | | X | X |
| Townsend's Western Big-Eared Bat (*Forest, Buildings, Mine Shafts*) | X | X | X | X | X | | | | X | X |
| Tricolored Blackbird (*Aquatic – i.e. emergent vegetation*) | | X | X | X | | X | X | | | X |
| Western Mastiff Bat (*Forest, Buildings, Mine Shafts*) | X | X | X | X | X | | | | X | X |
| Western Red Bat (*Forest, Buildings, Mine Shafts*) | | X | X | X | | X | X | X | | X |
| Western Small-Footed Myotis (*Forest, Buildings, Mine Shafts*) | X | X | X | X | X | X | X | X | X | X |
| Yellow Warbler (*Riparian*) | | | | | | | | | | X |
| Yellow-Breasted Chat (*Riparian*) | | | | | | | | | | X |
| Yuma Myotis (*Forest, Buildings, Mine Shafts*) | X | X | X | X | X | | | | X | X |

*Habitat definitions:
Forest = Ponderosa Pine/Mixed Conifer and Black Oak Series
Chaparral = Whiteleaf Manzanita Series
Grassland = Annual Grassland Series
Riparian = Waters of the U.S., Perennial Streams, Seasonal Ponds, Emergent Wetland, Ephemeral Wetlands, Arroyo Willow/White Alder Series.
Man-Made = Mine Tailings, Mine Shafts, Sand Dam, Ditches, Concrete Pools, the Magenta Drain, and Urban

**Impact 4.3-1(D): Program Actions at the Park Could Have a Substantial Adverse Effect, Either Directly or Through Habitat Modification, on Bats**

Although focused surveys for special-status bat species have not been conducted, Vestra (2009a) determined that up to seven special-status bat species could potentially occur in the Park. Bats could be roosting in snags and some of the larger trees within forested portions of the Park, in the buildings, and in mine shafts. Removal of snags or large trees, or modification of buildings could result in disturbance to, and/or mortality of, breeding bats.

Per Specific Project Requirement BIO-6, Project Actions will occur outside the maternity season for bats (March 1 – August 31). Prior to the start of Project Actions, a DPR-qualified biologist will conduct a presence/absence bat survey if snag and/or tree removal, or roof modification are scheduled to occur during maternity season. If bats are not detected, Program Actions will be permitted. If bats are detected, a DPR-qualified biologist will establish a 50-foot buffer exclusion zone around each occupied location until the roosting activities have ceased, as determined by a DPR qualified biologist. This Specific Project Requirement will reduce potential impacts to roosting bats. However, if the Project Proponents are legally required to perform Program Actions during the maternity season, this impact could be potentially significant and unavoidable.

**Level of Significance Before Mitigation:** Potentially Significant

**Mitigation Measures:** No feasible mitigation measures are identified.

**Level of Significance After Mitigation:** Potentially Significant and Unavoidable

If Project Actions need to take place during maternity season, this impact could be potentially significant and unavoidable. Therefore Impact 4.3-1(D) is potentially significant and unavoidable.

**Impact 4.3-1(E): Program Actions at the Park Could Have a Substantial Adverse Effect, Either Directly or Through Habitat Modification, on Nesting Raptors and Migratory Birds**

Nesting raptors known to occur in the Park include Cooper's hawk and California spotted owl. Other nesting raptors could potentially nest in the Park, including but not limited to, various hawk and owl species. Additionally, migratory bird species could nest in any of the vegetation in the Park, and migratory swallows could nest in eaves of buildings and near entrances to mine shafts. Disturbance of vegetation and/or structures could result in the take of nesting raptors and migratory birds. As shown on Table 4.0-1, twelve of the thirteen remediation options could result in vegetation

removal and/or modification of structures. Removal of vegetation including trees could result in alteration of habitat for nesting raptors or migratory birds.

To avoid take of raptors and migratory bird species, the Project Proponents will ensure that Standard Project Requirements BIO-4 and BIO-5 (Table 2.0-1) are implemented. Per Standard Project Requirement BIO-4, all Project Actions with the potential to affect nesting birds (as determined by a DPR-qualified biologist) will not occur during the breeding season (March 1 – August 31). If Project Actions are required during the California Spotted Owl breeding season (March 1 - August 31), BIO-4 provides that protocol-level surveys will be done to determine nesting status will be required. If the owl pair is determined to be non-breeding, Program Actions will be permitted. If the owl pair is determined to be breeding, no Project Actions with the potential to create noise disturbance will be allowed within 1,000 feet of the active nest until after the young have fledged and have the ability to fly out of the area of disturbance, as determined by a DPR-qualified biologist. If the 1,000 foot buffer is not feasible, the Project Proponents will consult with the USFWS and CDFG, as appropriate.

Additionally, Standard Project Requirement BIO-4 provides that all Project Actions with the potential to affect nesting birds (as determined by a DPR-qualified biologist) will not occur during the breeding season (March 1 – August 31). If Project Actions are required during the California Spotted Owl breeding season (March 1 - August 31), BIO-4 provides that protocol-level surveys will be done to determine nesting status will be required. If the owl pair is determined to be non-breeding, Program Actions will be permitted. If the owl pair is determined to be breeding, no Project Actions with the potential to create noise disturbance will be allowed within 1,000 feet of the active nest until after the young have fledged and have the ability to fly out of the area of disturbance, as determined by a DPR-qualified biologist. If site conditions do not allow for a buffer of 1,000 feet, the Project Proponents will consult with the USFWS and CDFG, as appropriate.

BIO-4 states that if Project Actions that could potentially cause take of other nesting bird species (as determined by a DPR-qualified biologist) are necessary during the breeding season (March 1 - August 31), pre-construction surveys will be required. If nesting sensitive birds, raptors, and/or migratory birds are found at the Park, a buffer area of 1,000 feet, 250 feet or 100 feet, respectively, will be established around the nest(s); no Project Actions that could potentially cause nest failure will be permitted until the nest is vacated and the juveniles have fledged, as determined by a DPR-qualified biologist. BIO-4 provides that at the discretion of a DPR-qualified biologist, Project Actions will be monitored to ensure that impacts to nesting sensitive birds, raptors, and/or migratory birds are minimized.

Per Standard Project Requirement BIO-5, the Project Proponents and/or Construction Contractor will not remove any trees equal to or greater than 15-inches dbh unless first inspected by a DPR-qualified biologist and determined to be unsuitable as nesting

habitat for California spotted owls and other sensitive birds. With implementation of Standard Project Requirements BIO-4 and BIO-5, and Mitigation Measure 4.3-2, below, impacts would be less than significant, except for potential impacts to the California Spotted Owl habitat. However, if the Project Proponents or their Construction Contractor are legally required to perform Program Actions during the nesting season, this impact could be potentially significant and unavoidable.

**Level of Significance Before Mitigation:** Potentially Significant

**Mitigation Measure 4.3-2: Habitat Replacement**

Upon completion of Program Actions in the Remediation Area, the Project Proponents will replace any removed tree with a dbh greater than 15 inches and that a DPR-qualified biologist determined to be suitable California Spotted Owl nesting habitat at a 3:1 ratio within the Park and consisting of seedlings from native tree species propagated from seed collected within the Park. A DPR-qualified biologist will approve the location of new trees.

**Level of Significance After Mitigation:** Potentially Significant and Unavoidable

**Impact 4.3-2: Program Actions at the Park Could Require Activities that Would Have a Substantial Adverse Effect on Riparian Habitat or Other Sensitive Natural Community Identified in Local or Regional Plans, Policies, or Regulations, or by the CDFG or the USFWS**

Natural vegetation communities within the Park are described in Section 4.3.1 (subsection entitled Ponderosa Pine Forests and Woodlands Alliance). The Arroyo Willow Forest and Woodland Alliance and the Westside Ponderosa Pine Association are the only sensitive natural communities identified at the Park.

Arroyo Willow Forest and Woodland Alliance vegetation is present in the Park along South Fork Wolf Creek, Little Wolf Creek, and Magenta Drain. Westside Ponderosa Pine Association is present throughout the Park. The following specific activities could result in removal or degradation of riparian habitat in the Park:

- Operation of heavy construction equipment;
- Transportation of contaminated soils leaving the Park and importation of clean fill material entering the Park;
- Mobilization and demobilization of heavy construction equipment to the Park;
- Demolition and/or removal of any structures, including temporary facilities;
- Construction and closure of on-site remedial soils sites;
- Grading activities;
- Boring activities;

- Excavation activities;
- Blasting activities;
- Scarifying activities;
- Dredging and sediment removal;
- Stormwater BMP installation and maintenance activities;
- Physical contact with cultural and surface water resources;
- Removal of trees and other vegetation;
- Construction of ancillary structures, including utilities for either a temporary or permanent active water treatment facility;
- Construction and installation of permanent exclusion barriers; and/or
- Construction and maintenance of access roads.

As shown on Table 4.0-1, twelve of the thirteen remediation options could involve one or more of these Project Actions, which could potentially result in loss of sensitive natural communities. In addition, other Program Actions could utilize one or more of the above listed Project Actions in riparian areas.

Per Specific Project Requirement BIO-7, prior to implementation of Program Actions, the Project Proponents will determine and use the minimum area necessary for Program Actions, including staging and access, and place orange construction fencing or flagging around the boundaries of the proposed work area. Existing disturbed areas will be utilized to the extent possible. Remediation personnel will minimize habitat disturbance by remaining within the designated work area at all times. There will be no placement of excavated soils or other materials outside the designated work area. Any Program Action related habitat disturbance outside the designated work area will be prohibited.

Per Standard Project Requirement BIO-1, excavated soils will not be cast along the side of the trail or into surrounding habitat where Humboldt lily may be present.

Per Standard Project Requirement BIO-2, prior to the start of Program Actions, and under the direction of a DPR-qualified biologist, the Project Proponents will flag and/or fence all True's manzanita for avoidance within the Remediation Area; fencing will be removed after remediation has been completed.

Per Standard Project Requirement HYDRO-1 the Project Proponents would implement BMPs to reduce or eliminate the project-related discharge of soil, surface water runoff, and pollutants that could occur as a result of during and immediately after storm events and that could result in siltation and sedimentation in adjacent sensitive vegetation communities.

These measures are expected to reduce impacts to Westside Ponderosa Pine Association to a less than significant level, based upon the widespread occurrence of this vegetation type, the minimal level of disturbance anticipated, and the large amount of Westside Ponderosa Pine Association expected to remain at the Park. However, removal and degradation of Arroyo Willow Forest and Woodland Alliance could result in a net loss of this vegetation type, which is less abundant at the Park and in the region than Westside Ponderosa Pine Forest. Therefore, loss of Arroyo Willow Forest and Woodland Alliance resulting from Program Actions would be considered a potentially significant impact.

**Level of Significance Before Mitigation:** Potentially Significant

**Mitigation Measure 4.3-3: Riparian Habitat**

To the extent practicable, the Project Proponents will avoid permanent removal of identified riparian vegetation. If the impacted riparian vegetation cannot be restored following impacts (e.g., if soil or topographic conditions are modified to the extent that riparian vegetation cannot be supported at the impacted location), the Project Proponents will implement riparian restoration, enhancement or other feasible methods at an alternative location to achieve no net loss of riparian functions and values

**Level of Significance After Mitigation:** Potentially Significant and Unavoidable

With implementation of Mitigation Measure 4.3-3, Program Actions at the Park would result in no net loss of Arroyo Willow Forest and Woodland Alliance. Thus, remediation measures with the proposed mitigation measure would result in less than significant impacts.

If the above mitigation is implemented, impacts to riparian habitat would be less than significant. However, it is unclear at this time whether the Project Proponents would be able to feasibly implement riparian restoration, enhancement or other feasible methods at an alternative location to achieve no net loss of riparian functions and values. Therefore, this impact is considered potentially significant and unavoidable.

**Impact 4.3-3: Program Actions at the Park Could Have a Substantial Adverse Effect on Federally Protected Waters of the U.S., as Defined by CWA §404, Through Direct Removal, Filling, Hydrological Interruption, or Other Means**

Based upon the wetland delineation prepared by Vestra (2009c), 29.63 acres of Waters of the U.S., including wetlands, in the Central Area potentially fall under the jurisdiction of the USACE and therefore are federally protected. Of these, 19.3 acres are preliminarily determined to be USACE-jurisdictional wetlands. Vestra's wetland

delineation is subject to verification by the USACE and the USACE could require modification to the delineation. Additional wetlands could be present outside the Central Area.

The following Project Actions could result in removal, fill or degradation of federally protected Waters of the U.S. if conducted in, or adjacent to, wetlands or other waters of the U.S.:

- Operation of heavy construction equipment;
- Transportation of contaminated soils leaving the Park and importation of clean fill material entering the Park;
- Mobilization and demobilization of heavy construction equipment to the Park;
- Demolition and/or removal of any structures, including temporary facilities;
- Importation of supplies and materials that could be used for remediation activities;
- Temporary and permanent fencing installation;
- Grading activities;
- Boring activities;
- Excavation activities;
- Blasting activities;
- Scarifying activities;
- Dredging and sediment removal;
- Stormwater BMP installation and maintenance activities;
- Physical contact with cultural and surface water resources;
- Removal of trees and other vegetation;
- Construction of ancillary structures, including utilities for either a temporary or permanent active water treatment facility;
- Construction and installation of permanent exclusion barriers; and/or
- Construction and maintenance of access roads.

As shown on Table 4.0-1, twelve of the thirteen remediation options could result in one or more of these Project Actions, which potentially could result in impacts to wetlands and other waters. In addition, other Program Actions could utilize one or more of the above-listed Project Actions.

Per Specific Project Requirement BIO-8, the Project Proponents will avoid or minimize impacts to federally protected wetlands. Where conditions do not allow for avoidance, appropriate permits will be obtained prior to site work. Thus, an activity potentially impacting wetlands could be adjusted into upland habitat to avoid wetland impacts, if

possible. Although these measures would avoid and minimize impacts to wetlands, some loss or degradation of wetlands could be unavoidable; therefore, impacts to wetlands resulting from Program Actions would be considered a potentially significant impact.

**Level of Significance Before Mitigation:** Potentially Significant

**Mitigation Measure 4.3-4: Restoration of Wetlands and Other Waters of the U.S.**

To the extent practicable, Project Proponents will avoid permanent impacts to waters of the U.S., including wetlands. If vegetation in and around waters of the U.S., including wetlands, does not naturally begin to regenerate within a reasonable time period (e.g., 2 years) following Program Actions, Project Proponents will implement restoration through plantings and/or other feasible methods to achieve no net loss of functions and values.

Prior to any fill of wetlands and Waters of the U.S. under USACE jurisdiction, the Project Proponents would obtain the appropriate permits pursuant to Section 404 of the CWA.

**Level of Significance After Mitigation:** Potentially Significant and Unavoidable

With implementation of Mitigation Measures 4.3-1, 4.3-3, and 4.3-4, remediation would result in a less than significant impact to federally protected wetlands and other Waters of the U.S. However, it is unclear at this time whether the Project Proponent would be able to feasibly implement these mitigation measures at the Park or at an alternative location to achieve no net loss of functions and values. Therefore, this impact is considered potentially significant and unavoidable.

**Impact 4.3-4: Program Actions at the Park Could Interfere with the Movement of Native Resident Fish or Wildlife Species or with Established Native Resident or Migratory Wildlife Corridors**

No migratory fish or wildlife migratory corridors have been identified in the Park. No important wildlife movement corridors occur at the Park, thus effects are expected to be minimal. Migratory salmonids (fish) would not be affected because they are incapable of reaching the Park via Wolf Creek drainage: a barrier at the Camp Far West Reservoir along the Bear River prevents their passage (CALFED 2005, City of Grass Valley 2008).

**Level of Significance Before Mitigation:** Less than Significant

**Mitigation Measures:** None Required

### 4.3.4.2 Area-Specific EIR Impact Assessment

Table 4.3-6 indicates special-status species potentially present in each of the 10 Remediation Areas. In addition, Table 4.3-6 provides the types of habitat that are located in each of the Remediation Areas. The Project Proponents would utilize this table to assess whether Project Actions could have potentially significant impacts on any biological resources at a Remediation Area.

**Impact 4.3-5: Program Actions at Area-Specific Locations Could Have a Substantial Adverse Effect, Either Directly or Through Habitat Modification, on Species Identified as Sensitive, Candidate, or Special-Status Species in Local or Regional Plans, Policies, or Regulations, or by the CDFG or the USFWS**

**Impact 4.3-5(A): Program Actions at Area-Specific Locations Could Have a Substantial Adverse Effect, Either Directly or Through Habitat Modification, on California Red-legged Frog**

Aquatic habitat features are present at Identified Areas 2, 4, 6, 8, and 10. At Area 2 (Cyanide Plant Area) there is a small concrete pond, approximately 2 feet by 4 feet. Area 4 (Sand Dam Area) has standing water for a portion of the year and supports some emergent wetland vegetation. Little Wolf Creek supports several deep pools. Area 6 (Magenta Drain) supports perennial stream habitat and Area 7 (Stacy Lane Pond) supports a small, seasonal pool. Area 8 (Historic Grounds Area) includes small concrete ponds that provide aquatic habitat. Trails (Area 10) potentially cross some of the aquatic features at the Park. Although CRLF may move into upland areas during wet periods, the species would most likely occur within 300 feet of aquatic habitat and, therefore, take is not likely to occur for activities over 300 feet from aquatic habitat (USFWS 2008a).

Although habitat quality for CRLF is poor in the Park and the species was not found during surveys, there is a possibility that this species could occupy the aquatic sites at the Park in the future. Any grading or excavation activities in the aquatic areas or within 300 feet of aquatic areas could result in take of CRLF if this species is present.

Standard Project Requirement BIO-3 states that a USFWS-approved biologist will conduct a training session to familiarize all construction personnel with identification of CRLF and other sensitive species, their habitat, general provisions and protections afforded by the Endangered Species Act, measures implemented to protect the CRLF and other sensitive species, and a review of Project boundaries. During this training, all construction personnel will be provided with species identification cards (that include species photos) for the CRLF. All construction personnel and subcontractors will complete the training before they are authorized to work at the Park.

Further, the Project Proponents will designate an official point of contact (POC) to be at the Park during Program Actions in case a CRLF is found. If a CRLF is found on-site, all work in that location will be halted and diverted to another location until the DPR's State Representative is contacted and the USFWS-approved biologist and the USFWS are consulted for further direction.

Additionally, a USFWS-approved biologist will be present at all times during installation and removal of a temporary stream crossing at Little Wolf Creek, if and when needed.

CRLF has a low likelihood of occurrence at the Park: however, implementation of Standard Project Requirement BIO-3 (Table 2.0-1) would ensure that take of CRLF is avoided during any of the above Project Actions. Furthermore, Program Actions would result in overall improvement in water quality which would improve the habitat value for this species. Because there would be no take of CRLF, and the Program Actions would result in a net increase in habitat value, impact to CRLF would be less than significant.

**Level of Significance Before Mitigation:** Less than Significant

**Mitigation Measures:** None Required

**Impact 4.3-5(B): Program Actions at Area-Specific Locations Could Have a Substantial Adverse Effect, Either Directly or Through Habitat Modification, on Willow Flycatcher**

Area 4 supports riparian vegetation. Disturbance of willow flycatchers nesting in riparian habitat could result in take of this state listed species. The following Project Actions could result in take of willow flycatcher if this species is present in Area 4 in the future and if such activities take place within riparian habitat:

- Operation of heavy construction equipment;
- Transportation of contaminated soils leaving the Park and importation of clean fill material entering the Park;
- Mobilization and demobilization of heavy construction equipment to the Park;
- Demolition and/or removal of any structures, including temporary facilities;
- Temporary and permanent fencing installation;
- Grading activities;
- Boring activities;
- Excavation activities;
- Blasting activities;
- Scarifying activities;
- Dredging and sediment removal;

- Stormwater BMP installation and maintenance activities;
- Removal of trees and other vegetation;
- Construction of ancillary structures, including utilities for either a temporary or permanent active water treatment facility;
- Construction and installation of permanent exclusion barriers; and
- Construction and maintenance of access roads.

As shown on Table 4.0-1, twelve of the thirteen remediation options would utilize one or more of the Project Actions that potentially could result in take of willow flycatcher if this species is present. In addition, other Program Actions could utilize one or more of the Project Actions listed above.

Per Standard Project Requirements BIO-4 (provided in Table 2.0-1), all Project Actions affecting nesting bird species (as determined by a DPR-qualified biologist) will not occur during the breeding season (March 1 – August 31). If Project Actions are required during the California Spotted Owl breeding season (March 1 - August 31), BIO-4 provides that protocol-level surveys will be done to determine nesting status will be required. If the owl pair is determined to be non-breeding, Program Actions will be permitted. If the owl pair is determined to be breeding, no Project Actions with the potential to create noise disturbance will be allowed within 1,000 feet of the active nest until after the young have fledged and have the ability to fly out of the area of disturbance, as determined by a DPR-qualified biologist. If site conditions do not allow for a buffer of 1,000 feet, the Project Proponents will consult with the USFWS and DFG, as appropriate.

Additionally, BIO-4 states that if Project Actions that could potentially cause take of other nesting bird species (as determined by a DPR-qualified biologist) are necessary during the breeding season (March 1 - August 31), pre-construction surveys will be required. If nesting sensitive birds, raptors, and/or migratory birds are found at the Park, a buffer area of 1,000 feet, 250 feet or 100 feet, respectively, will be established around the nest(s); no Project Actions that could potentially cause nest failure will be permitted until the nest is vacated and the juveniles have fledged, as determined by a DPR-qualified biologist. BIO-4 provides that at the discretion of a DPR-qualified biologist, Project Actions will be monitored to ensure that impacts to nesting sensitive birds, raptors, and/or migratory birds are minimized.

With implementation of Standard Project Requirements BIO-4 and BIO-5, take of willow flycatcher would be avoided. Furthermore, the Program Actions would ultimately reduce levels of contaminants in the riparian habitat and improve habitat value for this species. Because the Project Proponents will avoid take of willow flycatchers and the Program Actions will result in a net improvement to habitat quality, impacts to willow flycatcher would be less than significant.

**Level of Significance Before Mitigation:** Less than Significant

**Mitigation Measures:** None Required

**Impact 4.3-5(C): Program Actions at Area-Specific Locations Could Have a Substantial Adverse Effect, Either Directly or Through Habitat Modification, on Native Vegetation Potentially Supporting Unlisted Special-Status Species**

Areas with natural vegetation that could be impacted by remediation include Remediation Areas 2, 4, 5, 6, 7, 8, 10, and 11. The special-status species potentially found at each Identified Area are indicated on Table 4.3-5. This impact is potentially significant.

The following Project Actions could result in removal or degradation of vegetation communities which potentially support the special-status species listed in Table 4.3-4:

- Operation of heavy construction equipment;
- Transportation of contaminated soils leaving the Park and importation of clean fill material entering the Park;
- Mobilization and demobilization of heavy construction equipment to the Park;
- Demolition and/or removal of any structures, including temporary facilities;
- Grading activities;
- Boring activities;
- Excavation activities;
- Blasting activities;
- Scarifying activities;
- Dredging and sediment removal;
- Stormwater BMP installation and maintenance activities;
- Physical contact with cultural and surface water resources;
- Removal of trees and other vegetation;
- Construction of ancillary structures, including utilities for either a temporary or permanent active water treatment facility;
- Construction and installation of permanent exclusion barriers; and/or
- Construction and maintenance of access roads.

As shown on Table 4.0-1, twelve of the thirteen remediation options would utilize one or more of the Project Actions which potentially could result in loss or degradation of habitat for special-status species. In addition, other Program Actions could utilize one or more of the above-listed Project Actions.

Per Specific Project Requirement BIO-7, prior to implementation of Program Actions, the Project Proponents will determine and use the minimum area necessary for Program Actions, including staging and access, and place orange construction fencing or flagging around the boundaries of the proposed work area. Existing disturbed areas will be utilized to the extent possible. Unless prior approval is obtained from DPR remediation personnel will minimize habitat disturbance by remaining within the designated work area(s).

Per Standard Project Requirement BIO-1, excavated soils will not be cast along the side of the trail or into surrounding habitat where Humboldt lily may be present.

Per Standard Project Requirement BIO-2, prior to the start of Program Actions, and under the direction of a DPR-qualified biologist, the Project Proponents will flag and/or fence all True's manzanita for avoidance within the Remediation Area; fencing will be removed after remediation has been completed.

Per Standard Project Requirement HYDRO-1, the Project Proponents would implement BMPs to reduce or eliminate the discharge of soil, surface water runoff, and pollutants that could result in impacts to adjacent habitats.

The Standard and Specific Project Requirements described above would minimize impacts to special-status species and their habitats. However, unavoidable loss or disturbance of sensitive species habitat would be considered a potentially significant impact.

**Level of Significance Before Mitigation:** Potentially Significant

**Mitigation Measure 4.3-1: Restoration**

Implementation of Mitigation Measure 4.3-1 will reduce this impact to a less than significant level.

**Level of Significance After Mitigation:** Less than Significant

**Impact 4.3-5(D): Program Actions at Area-Specific Locations Could Have a Substantial Adverse Effect, Either Directly or Through Habitat Modification, on Bats**

Special-status bat species potentially occupy buildings, large trees and snags, and mine shafts on Identified Areas 1, 2, 4, 5, 7, 8, 9, and 11. Special-status bat species potentially roosting at these Areas include long-eared myotis, pallid bat, spotted bat, Townsend's western big-eared bat, western mastiff bat, western small-footed myotis, and Yuma myotis.

Per Specific Project Requirement BIO-6, Project Actions will occur outside the maternity season for bats (March 1 – August 31). Prior to the start of Project Actions, a DPR-qualified biologist will conduct a presence/absence bat survey if snag and/or tree removal, or roof modification are scheduled to occur during maternity season. If bats are not detected, Program Actions will be permitted. If bats are detected, a DPR-qualified biologist will establish a 50-foot buffer exclusion zone around each occupied location until the roosting activities have ceased, as determined by a DPR qualified biologist. This Specific Project Requirement will reduce potential impacts to roosting bats. However, if the Project Proponents are legally required to perform Program Actions during the maternity season, this impact could be potentially significant and unavoidable.

**Level of Significance Before Mitigation:** Potentially Significant

**Mitigation Measures:** No feasible mitigation measures are identified.

**Level of Significance After Mitigation:** Potentially Significant and Unavoidable

If Project Actions need to take place during maternity season, this impact could be potentially significant and unavoidable. Therefore Impact 4.3-5(D) is potentially significant and unavoidable.

**Impact 4.3-5(E): Program Actions at Area-Specific Locations Could Have a Substantial Adverse Effect, Either Directly or Through Habitat Modification, on Nesting Raptors and Migratory Birds**

Modification of vegetation or buildings at any of the 10 Remediation Areas could impact nesting raptors and migratory birds. However, to avoid take of raptors and migratory bird species, the Project Proponents will ensure that Standard Project Requirement BIO-4 (Table 2.0-1) is implemented. These standard measures require that remediation take place outside the breeding season to the extent possible. Per Standard Project Requirement BIO-4, all Project Actions with the potential to affect nesting birds (as determined by a DPR-qualified biologist) will not occur during the breeding season (March 1 – August 31). If Project Actions are required during the California Spotted Owl breeding season (March 1 - August 31), BIO-4 provides that protocol-level surveys will be done to determine nesting status will be required. If the owl pair is determined to be non-breeding, Program Actions will be permitted. If the owl pair is determined to be breeding, no Project Actions with the potential to create noise disturbance will be allowed within 1,000 feet of the active nest until after the young have fledged and have the ability to fly out of the area of disturbance, as determined by a DPR-qualified biologist. If site conditions do not allow for a buffer of 1,000 feet, the Project Proponents will consult with the USFWS and CDFG, as appropriate.

Additionally, BIO-4 states that if Project Actions that could potentially cause take of other nesting bird species (as determined by a DPR-qualified biologist) are necessary during the breeding season (March 1 - August 31), pre-construction surveys will be required. If nesting sensitive birds, raptors, and/or migratory birds are found at the Park, a buffer area of 1,000 feet, 250 feet or 100 feet, respectively, will be established around the nest(s); no Project Actions that could potentially cause nest failure will be permitted until the nest is vacated and the juveniles have fledged, as determined by a DPR-qualified biologist. BIO-4 provides that at the discretion of a DPR-qualified biologist, Project Actions will be monitored to ensure that impacts to nesting sensitive birds, raptors, and/or migratory birds are minimized.

Per Standard Project Requirement BIO-5 (provided in Table 2.0-1), the Project Proponents will not remove any trees equal to or greater than 15-inches dbh unless first inspected by a DPR-qualified biologist and determined to be unsuitable as nesting habitat for California spotted owls and other sensitive birds.

With implementation of Standard Project Requirements BIO-4 and BIO-5 and Mitigation Measure 4.3-2, impacts to nesting raptors and migratory birds would be less than significant, except for potential impacts to the California Spotted Owl. However, if the Project Proponents are legally required to perform Program Actions during the nesting season, this impact could be potentially significant and unavoidable.

**Level of Significance Before Mitigation:** Potentially Significant

**Mitigation Measures 4.3-2: Habitat Replacement**

See Impact 4.3-1(E), above.

**Level of Significance After Mitigation:** Potentially Significant and Unavoidable

**Impact 4.3-6: Program Actions at Area-Specific Locations Could Require Activities That Would Have a Substantial Adverse Effect on Riparian Habitat or Other Sensitive Native Community Identified in Local or Regional Plans, Policies, or Regulations, or by the CDFG or the USFWS**

Area 4 supports riparian vegetation, therefore Project Actions in this Area could result in impacts to Arroyo Willow Forest and Woodland Alliance. Westside Ponderosa Pine Alliance is found throughout the Park and could be impacted by activities in any of the Remediation Areas other than developed area.

Per Specific Project Requirement BIO-7, prior to implementation of Program Actions, the Project Proponents will determine and use the minimum area necessary for Program Actions, including staging and access, and place orange construction fencing

or flagging around the boundaries of the proposed work area. Existing disturbed areas will be utilized to the extent possible. Remediation personnel will minimize habitat disturbance by remaining within the designated work area at all times. There will be no placement of excavated soils or other materials outside the designated work area. Any Program Action related habitat disturbance outside the designated work area will be prohibited.

Per Standard Project Requirement HYDRO-1, the Project Proponents would implement BMPs to reduce or eliminate the discharge of soil, surface water runoff, and pollutants that could result in impacts to adjacent sensitive vegetation communities.

These measures are expected to reduce impacts to Westside Ponderosa Pine Association to a less than significant level, based upon the widespread occurrence of this vegetation type, the minimal level of disturbance anticipated, and the large amount of Westside Ponderosa Pine Association expected to remain at the Park. However, removal and degradation of Arroyo Willow Forest and Woodland Alliance could result in a net loss of this vegetation type, which is less abundant at the Park and in the region than Westside Ponderosa Pine Forest. Therefore, loss of Arroyo Willow Forest and Woodland Alliance resulting from Program Actions would be considered a potentially significant impact.

**Level of Significance Before Mitigation:** Potentially Significant

**Mitigation Measures:**

Mitigation Measure 4.3-3 will be implemented to minimize Impact 4.3-6 to the extent feasible.

**Level of Significance After Mitigation:** Potentially Significant and Unavoidable

With implementation of Mitigation Measure 4.3-3, Program Actions at the Park would result in no net loss of Arroyo Willow Forest and Woodland Alliance. Furthermore, the reduction of contaminants in this vegetation community is expected to improve its overall function and value. If the above mitigation is implemented, impacts to riparian habitat will be less than significant. However, it is unclear at this time whether the Project Proponents will be able to feasibly implement riparian restoration, enhancement or other feasible methods at an alternative location to achieve no net loss of riparian functions and values. Therefore, this impact is considered potentially significant and unavoidable.

**Impact 4.3-7: Program Actions at Area-Specific Locations Could Have a Substantial Adverse Effect on Federally Protected Waters of the U.S., as Defined by CWA §404, through Direct Removal, Filling, Hydrological Interruption, or Other Means**

Area 4 (Sand Dam) supports potential wetlands or Other Waters of the U.S. as identified by Vestra (2009c). Additionally, Area 10 (Trails) could include wetlands or Waters of the U.S. as identified by Vestra (2009c).

Per Specific Project Requirement BIO-8, if site conditions allow, the Project Proponents will avoid and minimize impacts to federally protected wetlands. Where conditions do not allow for avoidance, appropriate permits will be obtained prior to site work. Thus, an activity potentially impacting wetlands would be adjusted to avoid wetland impacts, if possible. Although these measures would avoid and minimize impacts to wetlands, some loss or degradation of wetlands could be unavoidable; therefore, impacts to wetlands resulting from remedial actions would be considered a potentially significant and unavoidable impact.

**Level of Significance Before Mitigation:** Potentially Significant

**Mitigation Measures:**

Implementation of Mitigation Measure 4.3-4 will reduce this impact to the extent feasible.

**Level of Significance After Mitigation:** Potentially Significant and Unavoidable

The reduction of contaminants in the wetlands and Waters of the U.S. is expected to improve their overall function and value. With implementation of Mitigation Measures 4.3-1, 4.3-2, and 4.3-3, remediation would result in a less than significant impact to federally protected wetlands and other Waters of the U.S. However, it is unclear at this time whether the Project Proponents will be able to feasibly implement these mitigation measures at the Park or at an alternative location to achieve no net loss of functions and values. Therefore, this impact is considered potentially significant and unavoidable.

**Impact 4.3-8: Program Actions at Area-Specific Locations Could Interfere with the Movement of Native Resident Fish or Wildlife Species or with Established Native Resident or Migratory Wildlife Corridors**

Program Actions at all Remediation Areas will not substantially interfere with wildlife movement. No migratory fish or wildlife migratory corridors have been identified in the Park. No important wildlife movement corridors occur at the Park, thus effects are expected to be minimal. Migratory salmonids (fish) would not be affected because they are incapable of reaching the Park via Wolf Creek drainage: a barrier at the Camp Far

West Reservoir along the Bear River prevents their passage (CALFED 2005; City of Grass Valley 2008).

**Level of Significance Before Mitigation:** Less than Significant

**Mitigation Measures:** None Required

## 4.3.5 EFFECTS CONSIDERED NO IMPACT OR LESS THAN SIGNIFICANT WITHOUT PROJECT REQUIREMENTS

Environmental effects that were determined to be less than significant without Project Requirements or no impact are not discussed in detail in the Draft PEIR. Remediation would not conflict with any local policies or ordinances protecting biological resources. The proposed activities would occur on State Park land and is therefore not subject to any city or county policies or ordinances. The proposed project is consistent with policies described in the Empire Mine State Historic Park General Plan (DPR 1978). Impacts are therefore less than significant.

Remediation would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. No Habitat Conservation Plans (HCPs) or Natural Community Conservation Plans (NCCPs) are underway or approved which address the project area. Therefore, the proposed remediation would result in no effect to HCPs or NCCPs.

## 4.3.6 FINDINGS

The proposed remedial options could result in potentially significant impacts to habitat for non-listed special-status species, riparian habitat, wetlands, and wildlife movement. However, with integration of project requirements and implementation of the proposed mitigation measures, most of the biological impacts would be less than significant.

To the extent practicable, impacts to riparian and wetland habitats will be reduced through restoration of the disturbed areas or offsite restoration or enhancement. However, it is unclear at this time whether the riparian restoration, enhancement or other feasible methods could occur onsite or at an alternative location to achieve no net loss of riparian functions and values; therefore, the Project Proponents find impacts to riparian and wetland habitats to be significant and unavoidable.

Table 4.3-7, Summary of Findings for Biological Resources by Remediation Area, provides significance findings regarding each impact statement relative to each Identified Area. This table also provides the habitat types present in each Remediation Area.

## TABLE 4.3-7
## SUMMARY OF FINDINGS FOR BIOLOGICAL RESOURCES BY REMEDIATION AREA

| Remediation Areas | Impact 4.3.1(A) – California Red-legged Frog | Impact 4.3.1(B) – Willow Flycatcher | Impact 4.3.1(C) – Natural Habitat for Non-listed Special-Status Species | Impact 4.3.1(D) – Special-Status Bat Species | Impact 4.3.1(E) – Nesting Raptors and Migratory Birds | Impact 4.3.2 – Riparian Habitat | Impact 4.3.3 – Federally Protected Wetlands | Impact 4.3.3 – Wildlife Movement |
|---|---|---|---|---|---|---|---|---|
| **Area 1:** Mine Yard and Stamp Mill Area (Other Upland) | NI | NI | NI | LSM | LS | NI | NI | LSM |
| **Area 2:** Cyanide Plant Area: (Forest, Aquatic, Other Upland) | LS | NI | LSM | NI | LS | NI | NI | LSM |
| **Area 3:** Conveyance Corridor and Adit Project (Forest, Aquatic, Other Upland) | LSM | NI | LSM | LSM | LS | NI | NI | LSM |
| **Area 4:** Sand Dam Area (Forest, Aquatic, Other Upland) | LS | LSM | LSM | LSM | LS | PSU | PSU | LSM |
| **Area 5:** Historic Mine and Mill Areas (Forests, Other Upland) | NI | NI | LSM | LSM | LS | NI | NI | NI |
| **Area 6:** Magenta Drain Area (Aquatic) | LS | NI | LSM | NI | NI | NI | PSU | LSM |
| **Area 7:** Stacy Lane Pond Area (Aquatic, Forest, Other Upland Habitat) | LS | NI | LSM | NI | LS | NI | NI | LSM |
| **Area 8:** Historic Grounds Area (Aquatic (Concrete Pond), Other Upland) | LS | NI | LSM | LSM | LS | NI | NI | LSM |
| **Area 9:** Residences and Residences' Yards Areas (Forest, Other Upland) | NI | NI | LSM | LSM | LS | NI | NI | LSM |
| **Area 10:** Trails Areas (Forests, Chaparral, Aquatic, Other Upland) | LS | NI | LSM | NI | LS | NI | PSU | LSM |

**Notes:**
PSU = Potentially Significant and Unavoidable
PS = Potentially Significant Impact
LS = Less than Significant Impact – with Project Specific and Standard Project Requirements
LSM = Less than Significant Impact with Mitigation Incorporated
NI = No Impact
NA = Not Applicable
SU = Significant and Unavoidable