

3.4 Biological Resources

This section of the Draft EIR identifies existing biological resources on or within the vicinity of the project site and analyzes potential impacts to these resources that would result from construction and operation of the proposed project. The affected environment, including an overview of local vegetation, flora, sensitive plant communities, wetlands, wildlife, and special-status species is presented. Mitigation measures have been recommended to reduce identified impacts to less-than-significant levels. Discussion of applicable laws, ordinances, regulations, and standards is provided. During the NOP period no comments were received regarding potential impacts to biological resources.

3.4.1 SETTING

Environmental Setting

ECOREGION

The project site is located in the Central California Valley ecoregion (Omernik 1987). This ecoregion is characterized by flat, intensively farmed plains with long, hot dry summers and cool, wet winters (14-20 inches of precipitation per year). The Central California Valley ecoregion includes the Sacramento Valley to the north and the San Joaquin Valley to the south and it ranges between the Sierra Nevada foothills to the east to the Coastal Range foothills to the west. Nearly half of the region is actively farmed, and about three fourths of that farmed land is irrigated (Figure 2-1).

PROJECT LOCATION

The site encompasses approximately 90 acres of rural property in Shasta County, California (Figure 2-2). The site is located on the Enterprise 7.5-minute USGS Quadrangle, Section 28, Township 31 North, Range 4 West. Coordinates to the approximate center of the site are: 40° 30' 35" N and 122° 20' 12" W. Elevation on site ranges from approximately 448 feet (136 meters) above mean sea level (AMSL) at the northeastern corner of the site to approximately 430 feet (131 meters) AMSL along the southern border. Land uses surrounding the site consist of agriculture, rural residences, a commercial truck stop and a public school. The western property line runs along Interstate Highway 5.

EXISTING SITE CONDITIONS

Habitat Types

The project site is occupied by five habitat types: Developed / Disturbed, Ruderal Non-native Grassland, Agricultural Land, Riparian, and a Christmas Tree Farm. Each of these habitat types is described below (Figure 3.4-1).

Developed/Disturbed. Developed and disturbed areas within the project property include a commercial nursery located on the eastern side of the site, a private single-family residence

situated in the northeastern corner of a Christmas tree lot, and the remains of a dilapidated house on the southeastern corner of the property.

The nursery contains little natural vegetation as the area is dominated by cultivated horticultural plants growing in greenhouses and outside. The single-family residence is surrounded by ornamental vegetation and weedy species.

Woody vegetation found around the remains of the old house consists of Valley oak (*Quercus lobata*), English walnut (*Juglans regia*), magnolia (*Magnolia grandiflora*), and ornamental juniper (*Juniperus* spp.). Herbaceous plants include ripgut brome (*Bromus diandrus*), soft brome (*Bromus hordeaceus*), wild oat (*Avena fatua*), Mediterranean barley (*Hordeum murinum* ssp. *gussoneanum*), Himalayan blackberry (*Rubus discolor*), and perennial ryegrass (*Lolium perenne*).

Ruderal Non-native Grassland. Ruderal non-native grassland is present in the southern third of the site. This annual grassland is dominated by ripgut brome, wild oat, and Mediterranean barley. The area is bordered on three sides by roads and is biologically unremarkable. The area is somewhat moist, but is not a wetland.

Other plants occurring in this habitat include prickly lettuce (*Lactuca serriola*), curly dock (*Rumex crispus*), and rancher's fireweed (*Amsinckia menziesii*).

Agricultural Land. The northeastern and central portions of the site are occupied by land that has been in agricultural production. The parcel is maintained by disking and mowing and appears to be used for hay production.

Riparian. Strips of patchy and marginal riparian vegetation occur along the irrigation ditches along the north border of the ruderal non-native grassland and in a thin strip along the west side of the agricultural field. Vegetation along the north-south irrigation ditch is restricted to Himalayan blackberry and a few valley oak trees scattered along the ditch. We have identified this area as riparian in nature, but it doesn't serve as riparian habitat with regards to wildlife. The area is quite open and doesn't contain the shade and cover that wildlife species associated with riparian habitat typically require. There is also no permanent water associated with these zones and thus no food sources for species that prey on aquatic organisms.

The banks of the east-west oriented drainage ditch are dominated by hoary coffeeberry (*Rhamnus tomentella*), English walnut, and ripgut brome. Other species found along this ditch include valley oak, Kentucky bluegrass (*Poa pratensis*), wild oat, Mediterranean barley, soft brome, and slender wild oat.

A patch of narrow-leaved willows (*Salix exigua*) and Himalayan blackberry is located immediately west of the nursery boundary. This patch is not connected to the irrigation lateral and is associated with moist soil in that area.

Christmas Tree Farm. A derelict Christmas tree lot occupies the southwestern aspect of the property site. The lot contains several species of conifer trees including firs (*Abies* spp.) and

Douglas-fir (*Pseudotsuga menziesii*). The area is not maintained and contains a thick undergrowth of weedy species and grasses.

Wildlife and Plant Observations

Wildlife species observed on the site during the field survey are listed in [Table 3.4-1](#).

**Table 3.4-1
Wildlife Species Observed on Site**

Scientific Name*	Common Name
<i>Cathartes aura</i>	Turkey vulture (overhead)
<i>Buteo lineatus</i>	Red-shouldered hawk (overhead)
<i>Corvus brachyrhynchos</i>	American crow
<i>Pica nuttalli</i>	Yellow-billed magpie
<i>Sturnella neglecta</i>	Western meadowlark
<i>Zonotrichia leucophrys</i>	White-crowned sparrow
*Avian nomenclature follows the A.O.U. Checklist of North American Birds (1998)	

Plant species observed during the site survey are listed below in [Table 3.4-2](#).

**Table 3.4-2
Plant Species Observed on Site**

Scientific Name*	Common Name
<i>Abies</i> spp.	Fir (cultivated Christmas trees)
<i>Amsinckia menziesii</i>	Rancher's fireweed
<i>Avena fatua</i>	Wild oat
<i>Bromus diandrus</i>	Ripgut brome
<i>Bromus hordeaceus</i>	Soft brome
<i>Centaurea solstitialis</i>	Yellow star-thistle
<i>Juncus</i>	curly dock
<i>Juglans regia</i>	English walnut
<i>Juniperus</i> sp. (cultivar)	Juniper
<i>Lactuca serriola</i>	Prickly lettuce
<i>Lolium multiflorum</i>	Italian rye
<i>Magnolia grandiflora</i>	Magnolia
<i>Poa pratensis</i>	Kentucky bluegrass
<i>Quercus douglasii</i>	Blue Oak
<i>Quercus lobata</i>	Valley oak
<i>Quercus wislizenii</i>	Interior live oak
<i>Rhamnus tomentella</i>	hoary coffeeberry
<i>Rumex crispus</i>	curly dock
<i>Salix exigua</i>	Narrow-leaved willow
<i>Sorghum halpense</i>	Johnsongrass
<i>Taeniatherum caput-medusae</i>	Medusa head
<i>Trifolium</i> sp.	Clover
*Plant nomenclature follows Hickman (1993)	

SPECIAL-STATUS SPECIES

Special-status species are: those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the U.S. Fish and Wildlife Service (USFWS) under the Federal Endangered Species Act (FESA); those species listed or proposed for listing as rare, threatened, or endangered by the California Department of Fish and Game (CDFG) under the California Endangered Species Act (CESA); animals designated as “Species of Special Concern” (CSC) by the CDFG; animals designated “fully protected” by the California Fish and Game Code; migratory birds, including their nests, eggs, and young protected by the federal Migratory Bird Treaty Act (MBTA); those plant taxa cataloged in the California Native Plant Society (CNPS) *Inventory of Rare and Endangered Vascular Plants of California*; and species may be considered and listed as “species of local concern” by local agencies (typically cities or counties) because of local or regional scarcity as determined by that agency (per Section 15380 of the California Environmental Quality Act (CEQA) Guidelines).

Plant taxa considered for this document include species enumerated in the CNPS Lists 1, 2, 3, and 4. Even though many of these plants species may not have legal protections under federal and state regulations, they meet the criteria for listing as described in Section 15380 of the CEQA Guidelines. The CNPS code definitions are: List 1A species include those presumed extinct in California; List 1B species include those that are rare, threatened, or endangered in California and elsewhere; List 2 species include those that are rare, threatened, or endangered in California, but more common elsewhere; List 3 species is a review list for which necessary information is lacking; and List 4 species are of limited distribution or of infrequent distribution throughout their range and their vulnerability to threat appears low at this time.

Quad Knopf biologists developed a review list of special-status plant and animal species that could potentially occur on the proposed project site. The entire review list is presented in [Table 3.4-3](#) below. The information in the table regarding special-status species was obtained from:

- The CNDDDB (CDFG 2009a). Data query for the Enterprise, Shasta Dam, Project City, Bella Vista, Redding, Palo Cedro, Olinda, Cottonwood, and Balls Ferry USGS 7.5-minute quadrangles ([Appendix D](#) and [Figure 3.4-2](#)).
- Special Animals list (CDFG 2009b).
- Special Vascular Plants, Bryophytes, and Lichens List (CDFG 2009c).
- The USFWS (2009) list of Endangered and Threatened Species for the Enterprise, Shasta Dam, Project City, Bella Vista, Redding, Palo Cedro, Olinda, Cottonwood, and Balls Ferry USGS 7.5-minute quadrangles ([Appendix D](#)).
- The CNPS Online Inventory of Rare and Endangered Vascular Plants of California (CNPS 2009). Data query for the Enterprise, Shasta Dam, Project City, Bella Vista, Redding, Palo Cedro, Olinda, Cottonwood, and Balls Ferry USGS 7.5-minute quadrangles ([Appendix D](#)).

In addition to the literature search, Quad Knopf biologists Bob L. Jones conducted a field survey on January 23, 2009 to identify habitat types and assess the project for potential occurrence of special-status species.

The review list includes 17 plant and 33 animal species. For plants and animals, the potential for occurrence rankings listed in Table 3.4-3 is based on the following criteria:

- **Evaluated and Removed from Further Consideration:** Species have no potential to occur on the project site because the species is restricted to habitats that do not occur on or adjacent to the site boundaries; the project site is located outside of the species' known distributional range; and/or the project site is located out of the species' known elevational range.
- **Low:** Species with a low potential for occurrence are those for which the proposed project is on the boundary of the known distributional range or those for which there are no known recorded occurrences of the species within 10 miles of the project site and/or the habitat(s) needed to support the species are of poor or marginal quality.
- **Moderate:** Species with a moderate potential for occurrence are those for which the proposed project is within the known distributional range and for which there are known recorded occurrences of the species within 10 miles of the project site, and the habitat(s) needed to support the species are present on site.
- **High:** Species with a high potential for occurrence are those for which the proposed project is within the known distributional range and for which there are known recorded occurrences of the species within five miles of the project site, and habitats strongly associated with that species occur on the project site.
- **Species Present:** The species was observed by biologists on the project site during field surveys.

**Table 3.4-3
Special-Status Species Reviewed for this Document**

Species	Habitat	Status	Potential for Occurrence
Plants			
Henderson's bent grass (<i>Agrostis hendersonii</i>)	Moist Valley and foothill grasslands and vernal pools. Elevation 70-305 meters AMSL.	List 3	Low: Site contains marginal habitat and it occurs in the area.
Slender silver moss (<i>Anomobryum julaceum</i>)	Broadleafed upland forest, coniferous forest, and damp rock outcrops. Elevation 100-1000 meters MSL.	List 2	<i>Evaluated and removed from further consideration.</i> No suitable habitat.
Pointed broom sedge (<i>Carex scoparia</i>)	Great Basin scrub. Elevation 130-1000 meters AMSL.	List 2	<i>Evaluated and removed from further consideration.</i> No suitable habitat.

Species	Habitat	Status	Potential for Occurrence
Brown fox sedge (<i>Carex vulpinoidea</i>)	Wet places in marshes, swamps, and riparian woodland. Elevation 3-1200 meters AMSL.	List 2	<i>Evaluated and removed from further consideration.</i> Suitable habitat exists on site, but plant surveys conducted in 2005 failed to detect this species.
Pink creamsacs (<i>Castilleja rubicundula</i> ssp. <i>rubicundula</i>)	Chaparral (openings), cismontane woodland, meadows and seeps, valley and foothill grassland and/or serpentine soils. Elevation 20-900 meters AMSL.	List 1B	<i>Evaluated and removed from further consideration.</i> No suitable habitat.
Northern clarkia (<i>Clarkia borealis</i> ssp. <i>borealis</i>)	Chaparral, cismontane woodlands, and lower montane coniferous forests. Elevation 400-1340 meters AMSL.	List 1B	<i>Evaluated and removed from further consideration.</i> No suitable habitat and not in elevational range.
Silky cryptantha (<i>Cryptantha crinita</i>)	Riparian forest, riparian woodlands, and valley and foothill grasslands. Elevation 60-1215 meters AMSL.	List 1B	<i>Evaluated and removed from further consideration.</i> No suitable habitat.
Boggs Lake hedge-hyssop (<i>Gratiola heterosepala</i>)	Marshes, swamps, and vernal pools. Elevation 10-2400 meters AMSL.	CE, List 1B	<i>Evaluated and removed from further consideration.</i> No suitable habitat.
Red Bluff dwarf rush (<i>Juncus leiospermus</i> var. <i>leiospermus</i>)	Vernally mesic areas within chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, vernal pools. Elevation <1,000 meters AMSL.	List 1B	<i>Evaluated and removed from further consideration.</i> Suitable habitat exists on site, but plant surveys conducted in 2005 failed to detect this species.
Dubious pea (<i>Lathyrus sulphureus</i> var. <i>argillaceus</i>)	Cismontane woodlands and montane coniferous forests. Elevation 150-305 meters AMSL.	List 3	<i>Evaluated and removed from further consideration.</i> No suitable habitat and not in elevational range.
Legenere (<i>Legenere limosa</i>)	Vernal pools. Elevation 1-880 meters AMSL.	List 1B	<i>Evaluated and removed from further consideration.</i> No suitable habitat.
Bellinger's meadowfoam (<i>Limnanthes floccosa</i> ssp. <i>bellingeriana</i>)	Cismontane woodlands, meadows, and seeps with moist conditions. Elevation 290-1100 meters AMSL.	List 1B	<i>Evaluated and removed from further consideration.</i> Suitable habitat exists on site, but plant surveys conducted in 2005 failed to detect this species. Not in accepted elevational range.

Species	Habitat	Status	Potential for Occurrence
Woolly meadowfoam (<i>Limnanthes floccosa</i> ssp. <i>floccosa</i>)	Chaparral, cismontane woodlands, and valley and foothill grasslands. Elevation 60-1095 meters AMSL.	List 4	<i>Evaluated and removed from further consideration.</i> Suitable habitat exists on site, but plant surveys conducted in 2005 failed to detect this species.
Shasta snow-wreath (<i>Neviusia cliftonii</i>)	Cismontane woodlands, coniferous forests, and riparian woodlands. Elevation 300-500 AMSL.	List 1B	<i>Evaluated and removed from further consideration.</i> No suitable habitat and not in elevational range.
Slender Orcutt grass (<i>Orcuttia tenuis</i>)	Vernal pools. Elevation 35-1760 meters AMSL.	FT, CE List 1B	<i>Evaluated and removed from further consideration.</i> No suitable habitat.
Ahart's paronychia (<i>Paronychia ahartii</i>)	Cismontane woodland, valley and foothill grassland, vernal pools. Elevation 30-510 meters AMSL.	List 1B	<i>Evaluated and removed from further consideration.</i> Suitable habitat exists on site, but plant surveys conducted in 2005 failed to detect this species.
Oval-leaved viburnum (<i>Viburnum ellipticum</i>)	Chaparral, cismontane woodlands, and coniferous forests. Elevation 215-1400 AMSL.	List 2	<i>Evaluated and removed from further consideration.</i> No suitable habitat and not in elevational range.
Invertebrates			
Conservancy fairy shrimp (<i>Branchinecta conservatio</i>)	Large, deep vernal pools in annual grassland habitat.	FE	<i>Evaluated and removed from further consideration.</i> No suitable habitat.
Vernal pool fairy shrimp (<i>Branchinecta lynchi</i>)	Occur in annual grasslands where seasonal vernal pools or swales form in slight depressions after being inundated with fall or winter rain. Endemic to Central Valley	FT	<i>Evaluated and removed from further consideration.</i> No suitable habitat.
Valley elderberry longhorn beetle (VELB) (<i>Desmocerus californicus dimorphus</i>)	Occurs in the Central Valley and foothills and always in association with blue elderberry (<i>Sambucus mexicana</i>).	FT	<i>Evaluated and removed from further consideration.</i> No suitable habitat.
Vernal pool tadpole shrimp (<i>Lepidurus packardi</i>)	Occur in annual grasslands where seasonal vernal pools or swales form in slight depressions after being inundated with fall or winter rain. Endemic to Central Valley.	FE	<i>Evaluated and removed from further consideration.</i> No suitable habitat.

Species	Habitat	Status	Potential for Occurrence
California linderiella (<i>Linderiella occidentalis</i>)	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan, or in sandstone depressions.	none	<i>Evaluated and removed from further consideration.</i> No suitable habitat.
Birds			
Tricolored blackbird (<i>Agelaius tricolor</i>)	Near fresh water with dense cattails or thickets of willows or shrubs.	CSC	<i>Evaluated and removed from further consideration.</i> No suitable habitat.
Burrowing owl (<i>Athene cunicularia hypugaea</i>)	Open, dry grassland and desert habitats, and grass, forb and open shrub stages of pinyon-juniper and ponderosa pine habitats. Forage in plant communities in early stages of succession because cover is low.	CSC	<i>Evaluated and removed from further consideration.</i> No suitable habitat.
Northern harrier (<i>Circus cyaneus</i>)	Requires open grasslands, meadows, and freshwater marshes for nesting and foraging.	CSC	Low: project site contains marginal habitat for foraging.
Western yellow-billed cuckoo (<i>Coccyzus americanus occidentalis</i>)	Inhabits extensive deciduous riparian thickets or forests with dense, low-level or understory foliage, and which abut on slow-moving watercourses, backwaters, or seeps. Willow is almost always a dominant component of the vegetation. In Sacramento Valley, also utilizes adjacent orchards, especially of walnut.	FC, CE	<i>Evaluated and removed from further consideration.</i> No suitable habitat.
White-tailed kite (<i>Elanus leucurus</i>)	Open grasslands, agricultural fields, wide river valleys, open oak savannas, and desert grasslands.	CFP	Low: project site contains marginal habitat for foraging and roosting.
American peregrine falcon (<i>Falco peregrinus anatum</i>)	Forages primarily for bird species in marshes and grasslands. Nesting habitat includes high, protected cliffs and ledges, also utilizes human-made structures.	FD, CE CFP	<i>Evaluated and removed from further consideration.</i> No suitable habitat.
American bald eagle (<i>Haliaeetus leucacephalus</i>)	Requires large bodies of water or free-flowing rivers with abundant fish and adjacent snags or other perches from which to forage.	FD, CFP	<i>Evaluated and removed from further consideration.</i> No suitable habitat.
Loggerhead shrike (<i>Lanius ludovicianus</i>)	Open grasslands, agricultural fields, open chaparral, and oak savanna.	CSC	Moderate: Site contains suitable habitat.

Species	Habitat	Status	Potential for Occurrence
Osprey (<i>Pandion haliaetus</i>)	Ocean shore, bays, fresh-water lakes, larger streams, nests in tree-tops within 15 miles of fish-producing water body	CSC	<i>Evaluated and removed from further consideration.</i> No suitable habitat.
Purple martin (<i>Progne subis</i>)	Woodlands, low-elevation coniferous forests, and riparian areas. Occasionally will nest in residential areas.	CSC	Low: project site contains marginal habitat for foraging and roosting.
Bank swallow (<i>Riparia riparia</i>)	A colonial nester highly associated with vertical banks and cliffs along streams and rivers.	CT	<i>Evaluated and removed from further consideration.</i> No suitable habitat.
Northern spotted owl (<i>Strix occidentalis caurina</i>)	Requires large stands of old growth coniferous forests.	FT, CSC	<i>Evaluated and removed from further consideration.</i> No suitable habitat.
Amphibians and Reptiles			
Northwestern pond turtle (<i>Actinemys marmorata marmorata</i>)	Ponds, marshes, rivers, streams and irrigation ditches that have a muddy or rocky bottom and have cattails or other aquatic vegetation.	CSC	<i>Evaluated and removed from further consideration.</i> No suitable habitat.
Shasta salamander (<i>Hydromantes shastae</i>)	Moist limestone fissures and caves, rock outcroppings, and under woody debris in mixed pine-hardwood habitats.	CT	<i>Evaluated and removed from further consideration.</i> No suitable habitat.
California red-legged frog (<i>Rana aurora draytonii</i>)	Require aquatic habitat for breeding, also use a variety of other habitat types including riparian and upland areas. Adults utilize dense, shrubby or emergent vegetation associated with deep-water pools with fringes of cattails and dense stands of overhanging vegetation.	FT, CSC	<i>Evaluated and removed from further consideration.</i> No suitable habitat.
Foothill yellow-legged frog (<i>Rana boyii</i>)	Highly associated with streams and ponds in montane riparian habitat.	CSC	<i>Evaluated and removed from further consideration.</i> No suitable habitat.
Fish			
Green sturgeon (<i>Acipenser medirostris</i>)	Spawns in the Sacramento and Klamath Rivers. Preferred spawning substrate is large cobble, but can range from clean sand to bedrock.	FT, CSC	<i>Evaluated and removed from further consideration.</i> No suitable habitat.
Delta smelt (<i>Hypomesus transpacificus</i>)	Sacramento-San Joaquin Delta.	FT, CT	<i>Evaluated and removed from further consideration.</i> No suitable habitat.

Species	Habitat	Status	Potential for Occurrence
Central Valley steelhead (<i>Oncorhynchus mykiss</i>)	Inshore ocean at mid-depths and near surface; spawns in freshwater streams and rivers.	FT	<i>Evaluated and removed from further consideration.</i> No suitable habitat.
Spring-run Chinook salmon (<i>Oncorhynchus tshawytscha</i>)	Spawn and rear in main-stem Sacramento River and suitable perennial tributaries. Require cool year-round water temperatures and deep pools for over-summering habitat. Spawn in riffles with gravel and cobble substrate.	FT, CT	<i>Evaluated and removed from further consideration.</i> No suitable habitat.
Winter-run Chinook salmon (<i>Oncorhynchus tshawytscha</i>)	Spawn and rear in main-stem Sacramento River and suitable perennial tributaries. Require cool year-round water temperatures and deep pools for over-summering habitat. Spawn in riffles with gravel and cobble substrate.	FE, CE	<i>Evaluated and removed from further consideration.</i> No suitable habitat.
Mammals			
Pallid bat (<i>Antrozous pallidus</i>)	Forages over many habitats; roosts in buildings, large oaks or redwoods, rocky outcrops and rocky crevices in mines and caves.	CSC	Low: project site contains suitable habitat for foraging and roosting. Unlikely to breed on site.
Spotted bat (<i>Euderma maculatum</i>)	The spotted bat is distributed widely over the southwestern U.S. and is highly associated with rocky features.	CSC	<i>Evaluated and removed from further consideration.</i> No suitable habitat.
Silver-haired bat (<i>Lasionycteris noctivagans</i>)	Primarily a bat of forest habitats. Forages above the canopy and over open meadows and riparian areas. May roost in trees.	none	<i>Evaluated and removed from further consideration.</i> No suitable habitat.
Western red bat (<i>Lasiurus blossevillii</i>)	Forested canyons and riparian zones in arid areas.	CSC	<i>Evaluated and removed from further consideration.</i> No suitable habitat.
Hoary bat (<i>Lasiurus cinereus</i>)	Highly associated with both deciduous and coniferous forests. Forages over aquatic features such as streams and ponds. Roosts in caves, trees, and buildings.	none	<i>Evaluated and removed from further consideration.</i> No suitable habitat.
Yuma myotis (<i>Myotis yumanensis</i>)	Highly associated with aquatic habitats. Forages over ponds, streams, and lakes. Roosts in buildings, caves, cliffs, and bridges, trees.	none	<i>Evaluated and removed from further consideration.</i> No suitable habitat.

Species	Habitat	Status	Potential for Occurrence
Pacific fisher (<i>Martes pennanti</i>)	Inhabit coniferous forests and deciduous/riparian areas with a high percentage of canopy cover. They also require snags, logs, and rocky areas for cover and den sites.	CSC, FC	<i>Evaluated and removed from further consideration.</i> No suitable habitat.
Abbreviations:			
Federal			
FE	Federal Endangered Species		
FT	Federal Threatened Species		
FC	Candidate for Federal Listing		
FD	Delisted: Status to be Monitored for 5 Years		
State			
CE	California Endangered Species		
CT	California Threatened Species		
CSC	California Department of Fish and Game Species of Special Concern		
CFP	California Fully Protected Species		
CNPS			
1B	Plants Categorized as Rare, Threatened, or Endangered in California and Elsewhere		
2	Plants Rare, Threatened or Endangered in California, but more common Elsewhere		
3	Plants About Which We Need More Information		
4	Plants of Limited Distribution – Watch List		

Source: CNDDDB, CNPS Inventory of Rare and Endangered Plants, USFWS, Quad Knopf, Inc. 2009

Of the 50 plant and animal species evaluated from the literature search and site visit, six species (5 animal and 1 plant species) were considered to have a potential to occupy the site. These six potential species are described in greater detail below.

SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING AND/OR DOCUMENTED WITHIN A FIVE-MILE RADIUS OF THE PROJECT SITE

No special-status plant species were found present within the project site; however, the species below either occur within a five-mile radius of the project site (Figure 3.4-2) or have a low to moderate potential to occur on the project site.

Two botanists from North State Resources (NSR) conducted special-status plant surveys of the site on April 20, and May 23, 2005. No special-status plant species were detected during these surveys.

Plants

Henderson's bent grass (*Agrostis hendersonii*) is a CNPS List 3 species. Henderson's bent grass is associated with mesic (wet) grasslands and vernal pool habitat. This species is an annual herb and blooms during April and May. It is distributed in the upper Sacramento Valley, primarily in Shasta and Tehama Counties and in the central San Joaquin Valley. This species is known to occur within 4 miles of the project site (CNDDDB 2009).

Animals

No special-status animal species were found on the project site during the survey; however, it was determined that potential habitat exists on the project site for the five species listed below. The remaining species in Table 3.4-3 were determined to have no potential to occur on the site due to a lack of suitable habitat or lack of presence in the region.

Northern harrier (*Circus cyaneus*) is a California Species of Special Concern. Northern harriers occur primarily in open wetland, grassland, and agricultural habitats. They are widespread residents of the Central Valley and coastal areas of California and occur throughout the region where the proposed project is located.

Northern harriers are ground nester raptors and build rudimentary nests in marshes, grasslands, and grain fields. The species forages for small vertebrates in seasonal wetlands, grasslands, and agricultural margins.

White-tailed kite (*Elanus leucurus*) is a California fully protected species. White-tailed kites favor agricultural areas, grasslands, marshes, savannas, and other open land or sparsely wooded areas. They are sometimes seen hunting in the grassy areas along highways, or they locate and hunt meadow mice in abandoned fields or orchards. Kites prefer small mammals, but will also occasionally hunt birds, reptiles, and amphibians. They search for prey by soaring, flapping, or hovering in flight, and then swooping down onto their prey.

Kites favor nesting trees of sycamore, oak, and willow. They lay three to five eggs that are incubated for 30-32 days. The young kites fledge at five to six weeks of age. If prey is abundant, a second clutch of eggs may be laid.

Loggerhead shrike (*Lanius ludovicianus*) is a California Species of Special Concern. It forages over open fields with scattered trees, open woodland, and scrub. This species will often sit immobile for long periods watching for prey. It stuns or kills flying birds with a blow from its powerful beak and often catches prey by impaling it on a plant spine or barbed wire, leading to its common name "butcher bird."

Purple martin (*Progne subis*) is a California Species of Special Concern. The purple martin is the largest swallow in North America and occurs from southwestern Canada to central Mexico. In California they occur in the North Coastal Ranges, Modoc Plateau, the western foothills of the Sierra Nevada Range, and in disjunct populations in the southern part of the state. They are aerial insectivores and establish colonial nests in the cavities of large trees in oak or riparian woodlands and low-elevation coniferous forest.

Pallid bat (*Antrozous pallidus*) is a California Species of Special Concern. They occur in desert scrub with rocky outcrops, from lowlands to oak-pines at about 6,000 feet and feed mainly on prey captured from the ground or vegetation including large insects, scorpions, and small vertebrates.

During the day they roost in rock crevices, buildings, mines, and hollow trees in colonies of 12 to 100 individuals. At night they may rest under bridges or porches. There are usually two young born from May-July. Maternity roosts are located in rock crevices and old buildings. Pallid bats occur in grasslands, shrublands, woodlands, and forests from sea level up to mixed conifer forests. They are most common in open, dry habitats with rocky areas, which are used for roosting. It is a locally common species in low elevations in California

SENSITIVE NATURAL COMMUNITIES

Sensitive natural communities are those habitats that are of special concern to resource agencies, or that are afforded specific consideration through CEQA, by California Fish and Game Code, and through conditions of a Section 404 permit under the Clean Water Act. All riparian habitats are subject to regulation under Section 1600 et seq. of the California Fish and Game. Habitats considered sensitive by CDFG are those identified as “rare and worthy of consideration” and are tracked in the CNDDDB. Sensitive natural communities occurring in the area include:

- Great Valley Cottonwood Riparian Forest
- Great Valley Mixed Riparian Forest
- Great Valley Valley Oak Riparian Forest
- Great Valley Willow Scrub

None of the sensitive natural communities listed above occur within the boundaries of the proposed project site.

RAPTORS

Nesting raptors (birds of prey) and raptor nests are protected under the Migratory Bird Treaty Act (MBTA) and by California Fish and Game Code. All six families of raptors occurring in North America are protected:

- Accipitridae (kites, hawks, and eagles)
- Cathartidae (New World vultures)
- Falconidae (falcons and caracaras)
- Pandionidae (ospreys)
- Strigidae (typical owls)
- Tytonidae (barn owls)

Protection includes not only the birds themselves but also extends to their nests, young, and eggs. Relative to many other animal taxa, raptors naturally exist at low population levels and are widely dispersed within their habitats. Disturbances related to construction activities causing nest abandonment and/or loss of reproductive effort may be considered a “take” and are potentially punishable by fines and/or imprisonment.

WILDLIFE MOVEMENT CORRIDORS

Movements of wildlife generally fall into three basic categories: a) movements along corridors or habitat linkages associated with home range activities such as foraging, territory defense, and breeding; b) dispersal movements – typically one-way movements (e.g., juvenile animals leaving their natal areas or individuals colonizing new areas), and; c) temporal migration movements – these movements are essentially dispersal actions which involve a return to the place of origin (e.g., deer moving from winter grounds to summer ranges and fawning areas).

The proposed site is inhibited on the western border by I-5 and on the southern border by development and contains no movement or dispersal corridors.

WETLANDS

The site contains an irrigation lateral operated by ACID. It is our understanding that the Corps of Engineers does not view the lateral as a ‘water of the U S’ and will not be taking jurisdiction over this feature. The site contains no other possible wetland features.

Regulatory Setting

FEDERAL

Federal Endangered Species Act

The U. S. Fish and Wildlife Service have authority over projects that may affect the continued existence of a federally listed (threatened or endangered) species. Section 9 of the federal Endangered Species Act prohibits the take of federally listed species; take being defined under FESA, in part, as killing, harming, or harassment. Under federal regulations, take is further defined to include habitat modification or degradation where it actually results in death or injury to protected species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.

Clean Water Act – Section 404

Section 404 of the Clean Water Act (CWA) regulates all discharges of dredged or fill material into water of the United States. The U. S. Army Corps of Engineers (USACE) is the agency responsible for administering the permit process for activities that affect “waters of the US.” Executive Order 11990 is a federal implementation policy, that is intended to result in no net loss of wetlands.

Wetlands and Other Waters

Areas that meet the regulatory definition of “Waters of the United States” are subject to the jurisdiction of the USACE. The USACE, under provisions of Section 404 of the CWA (1972), has jurisdiction over “waters of the U.S.” This broad category of water bodies encompasses both wetland and nonwetland aquatic habitats such as streams, rivers, lakes, ponds, bays, and oceans. These nonwetland waters are collectively referred to as “other waters.”

Areas not considered to be jurisdictional waters include nontidal drainage and irrigation ditches excavated on dry land, artificially irrigated areas, artificial lakes or ponds used for irrigation or stock watering, small artificial water bodies such as swimming pools, and water-filled depressions (33 CFR, Part 328).

“Waters of the U.S.” are protected at both federal and state levels. The USACE has primary federal responsibility for administering regulations that concern “waters of the U.S.” The USACE requires that a permit be obtained if a project proposes placing structures within, over, or under navigable waters and/or discharging dredged or fill material into “waters of the U.S.”

Clean Water Act – Section 401

Section 401 of the CWA requires an applicant who is seeking a Section 404 permit to first obtain a water quality certification from the Regional Water Quality Control Board (RWQCB). To obtain the water quality certification, the RWQCB must indicate that the proposed fill would be consistent with the standards set forth by the state.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) is an international treaty among the United States, Canada, Mexico, Japan, and Russia for the conservation and management of bird species that may migrate through more than one country. The MBTA (50 C.F.R. Section 10) is enforced in the United States by the USFWS and covers 972 bird species. According to the provisions of the MBTA, it is unlawful to pursue, hunt, take, capture, or kill, or attempt to do the same to any species covered by the Act, including their nests, eggs, or young. Any disturbance that causes nest abandonment or loss of reproductive effort is considered a “take” and is potentially punishable by fines or imprisonment. Birds covered under the Act include all waterfowl, shorebirds, gulls, wading birds, raptors, owls, hummingbirds, warblers, flycatchers, and most perching bird species.

STATE

Fish and Game Code Section 2050-2097 – California Endangered Species Act

The California Endangered Species Act (CESA) protects certain plant and animal species when they are of special ecological, educational, historical, recreational, aesthetic, economic, and scientific value to the people of the state. CESA established that it is state policy to conserve, protect, restore, and enhance endangered species and their habitats.

CESA expanded upon the original Native Plant Protection Act (NPPA) and enhanced legal protection for plants. To be consistent with Federal regulations, CESA created the categories of “threatened” and “endangered” species. It converted all “rare” animals into CESA as threatened species but did not do so for rare plants. Thus, there are three listing categories for plants in California: rare, threatened, and endangered. Under state law, plant and animal species may be formally designated by official listing by the California Fish and Game Commission.

Fish and Game Code Section 1900-1913 – California Native Plant Protection Act

In 1977 the state legislature passed the NPPA in recognition of rare and endangered plants of the state. The NPPA gave the California Fish and Game Commission the power to designate native plants as endangered or rare and to require permits for collecting, transporting, or selling such plants.

Public Resources Code Section 15380 – California Environmental Quality Act

The California Environmental Quality Act (CEQA) relates that a species that is not listed on the federal or state endangered species lists may be considered rare or endangered if the species meets certain criteria defined in subdivision (b) of Public Resources Code Section 15380. Under CEQA, public agencies must determine if a project would adversely affect a species that is not protected by FESA or CESA. Species that are not listed under FESA or CESA, but are otherwise eligible for listing (i.e., candidate or proposed) may be protected by the local government until the opportunity to list the species arises for the responsible agency (i.e., USFWS or CDFG).

Fish and Game Code Sections 3503, 3503.5, 3800 – Predatory Birds

Under the California Fish and Game Code, all predatory birds in California, generally called “raptors,” are protected. The code indicates that it is unlawful to take, possess, or destroy the nest or eggs of any such bird unless it is in accordance with the code. Any activity that would cause a nest to be abandoned or cause a reduction or loss in a reproductive effort is considered a “take.”

Fish and Game Code Section 1601-1603 – Streambed Alteration

Under the California Fish and Game Code, the CDFG has jurisdiction over any proposed activities that would divert or obstruct the natural flow or change the bed, channel, or bank of any lake or stream. Private landowners or project developers must obtain a “Streambed Alteration Agreement” from the CDFG prior to any alteration of a lake bed or stream channel or their banks. Through this agreement, the CDFG may impose conditions to limit and fully mitigate impacts on fish and wildlife resources.

Porter-Cologne Water Quality Act - Section 402

The California Porter-Cologne Water Quality Control Act of 1969 established the State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards as the principal state agencies with primary responsibility for the coordination and control of water quality for waters of the State. The SWRCB is generally responsible for setting statewide water quality policy. Each RWQCB makes water quality and regulatory decisions for its region. Waters of the State that do not fall under the Corps jurisdiction per Section 404 of the CWA, are subject to Section 402 of the CWA. Thus an applicant who proposes to fill a waters of the State must obtain a Section 402 Waiver of Waste Discharge prior to initiating fill activities.

Oak Woodlands Conservation Act of 2001

The California Oak Woodlands Conservation Act (Act) was enacted to protect oak woodland habitats that have been diminished due to development, firewood harvesting, and agricultural conversions. The Act recognizes the importance of California's oak woodlands, how they enhance the natural and scenic beauty of the state, the critical role of the private landowner, and the importance of private land stewardship. The Oak Woodlands Conservation Program was established as a result of the Act and is intended to provide project funding opportunities for private landowners, conservation organizations, and local governments to conserve and restore oak woodlands. The Program authorizes local conservation districts to purchase oak woodland conservation easements and provide grants for land improvements and oak restoration efforts.

LOCAL

Shasta County General Plan

Policy FW-c: Projects that contain or may impact endangered and/or threatened plant or animal species, as officially designated by the California Fish and Game Commission and/or the U.S. Fish and Wildlife Service, shall be designed or conditioned to avoid any net adverse project impacts on those species.

Policy FW-d: The significant river and creekside corridors of Shasta County shall be designated on the General Plan maps. The primary purpose of this designation is to protect the riparian habitats from development and from adverse impacts from conflicting resources uses. The purpose is also to encourage open space and recreation. Mapping of significant waterway corridors in areas designated as resource protection lands is not required since it is assumed that resource land uses will also act to protect such waterway corridors. Riparian habitat protection along the significant river and creekside corridors, as designated on the plan maps shall be achieved, where appropriate, by the following measures:

- Regulation of vegetation removal
- Design of grading and road construction
- Establishment of a development set-back
- The siting of structures, including clustering
- Recreation plans for the Sacramento River, Clear Creek, and other feasible waterway resources.

Policy FW-e: Salmon spawning gravel in the following rivers and creeks shall be protected (listed only relevant creek to project site):

- Churn Creek: Mouth to Redding City limits.

[Table 3.4-4](#) provides a discussion of the proposed project's consistency with applicable portions of Shasta County General Plan Policies related to agriculture resources.

**Table 3.4-4
General Plan Consistency – Biological Resources**

Policy No.	Finding	Discussion
FW-c	Consistent	The project site has identified mitigation measures to lessen the impacts on all special-status species that have the potential to occur.
FW-d	Consistent	There is an ACID irrigation canal on the project site that diverts water from the Sacramento River. The irrigation canal contains some valley oaks, but is largely vegetated with upland plants species. Although riparian habitat is present, the canal is not considered a significant river or creekside corridor of Shasta County with riparian resources.
FW-e	Consistent	The ACID irrigation canal does not divert water from Churn Creek and therefore, the proposed project would not affect salmon spawning gravel in Churn Creek.

3.4.2 THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on the environment if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (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, or other approved local, regional, or state habitat conservation plan.

3.4.3 IMPACTS AND MITIGATION MEASURES

Impact #3.4-1: Direct or indirect effects on species, identified as a candidate, sensitive, special-status species, or migratory, including their habitat, or movement corridors.

Discussion/Conclusion: Construction of the proposed project could result in the loss of Henderson's bent grass if it is present in areas that would be disturbed during work activities. This impact would be *potentially significant*.

Construction of the proposed project could result in nest disturbance and/or loss of reproductive effort for northern harrier, white-tailed kite, other raptor species, loggerhead shrike, purple martin, and special-status migratory birds. This impact would be *potentially significant*.

Construction of the proposed project could result in a substantial adverse impact associated with the disturbance of roosting sites for a special-status bat-pallid bat. This impact would be *potentially significant*.

Mitigation Measures

Implementation of the following mitigation measures will reduce these impacts to a *less-than-significant* level:

Mitigation Measure #3.4-1a:

Plants

Prior to any grading activities, demolition, or construction work, a qualified botanist shall conduct focused surveys for Henderson's bent grass. To ensure that the target plant species is in bloom or are otherwise clearly identifiable, the survey should be performed in early May. If no special-status plant species are identified during focused surveys, then no further action shall be required.

If special-status plant species are observed during focused surveys and avoidance is not feasible, then prior to any ground disturbance, the project applicant shall, in consultation with CDFG, prepare and implement a mitigation plan (e.g. use of off-site mitigation bank or plant transplantation) that ensures that no adverse effects on the plant species or population viability occurs.

Mitigation Measure #3.4-1b:

Raptors and Other Nesting Birds

Trees scheduled to be removed because of project implementation shall be removed during the non-breeding season (late September to the end of February).

Prior to construction, but not more than 14 days before grading, demolition, or site preparation activities, a qualified biologist shall conduct a preconstruction nesting survey to determine the presence of nesting raptors. Activities taking place outside the breeding season (typically February 15 through August 31) do not require a survey. If active raptor nests are present in the construction zone or within 250-feet of the construction zone, temporary exclusion fencing shall be erected at a distance of 250-feet

around the nest site. Clearing and construction operations within this area shall be postponed until juveniles have fledged and there is no evidence of a second nesting attempt determined by the biologist.

If nesting Swainson's hawks are observed during field surveys, then consultation with the CDFG regarding Swainson's hawk mitigation guidelines shall be required. The guidelines include, but are not limited to, buffers of up to one quarter mile, monitoring of the nest by a qualified biologist, and mitigation for the loss of foraging habitat.

To avoid impacts to common and special-status migratory birds pursuant to the Migratory Bird Treaty Act and CDFG codes, a nesting survey shall be conducted prior to construction activities if the work is scheduled between March 15 and August 31. If migratory birds are identified nesting within the construction zone, a 100-foot buffer around the nest site must be designated. No construction activity may occur within this buffer until a qualified biologist has determined that the young have fledged. A qualified biologist may modify the size of the buffer based on site conditions and the bird's apparent acclimation to human activities. If the buffer is modified, the biologist would be required to monitor stress levels of the nesting birds for at least one week after construction commences to ensure that project activities would not cause nest site abandonment or loss of eggs or young. At any time the biologist shall have the right to implement the full 100-foot buffer if stress levels are elevated to the extent that could cause nest abandonment and/or loss of eggs or young.

Mitigation Measure #3.4-1c:

Bats

If tree removal, grading activities, or structure demolition commences during the breeding season (April 1 through August 31), a field survey shall be conducted by a qualified biologist to determine whether active bat roosts are present on or adjacent to the site. If no roosting bats are discovered, then no further mitigation is required.

If roosting bats are determined to be present on site, then prior to disturbance a qualified mammalogist shall be retained to remove and relocate the roosting bat(s) in accordance with CDFG requirements.

Impact #3.4-2: Adverse effects on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

Discussion/Conclusion: While the project site does contain vegetation associated with riparian habitats, there are no areas within the project boundaries that are defined as 'riparian habitat' as defined by the CDFG. **No impact** has been identified.

Mitigation Measures

No mitigation measures are required.

Impact #3.4-3: Adverse effects on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

Discussion/Conclusion: The project site contains no wetlands or other ‘waters of the U.S.’ that would be considered jurisdictional by the U. S. Army Corps of Engineers. *No impact* has been identified.

Mitigation Measures

No mitigation measures are required.

Impact #3.4-4: Interference 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.

Discussion/Conclusion: The implementation of the proposed project would not substantially interfere with the movement of any fish or wildlife species. The project site does not contain a wildlife movement corridor. *No impact* has been identified.

Mitigation Measures

No mitigation measures are required.

Impact #3.4-5: The proposed project could result in conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Discussion/Conclusion: The project site is occupied by a small number of oak trees which may be removed to allow for construction of the project. The relatively small number of oak trees and their dispersed locations throughout the site does not constitute oak woodland as defined by law. The implementation of the proposed project would not result in the loss of oak woodland and this impact would be *less than significant*.

Mitigation Measures

No mitigation measures are required.

Impact #3.4-6: Conflict with the provisions of an adopted Habitat Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Discussion/Conclusion: The proposed project is not located within the established boundaries of a Habitat Conservation Plan (HCP)/Natural Community Conservation Plan (NCCP); therefore, *no impact* has been identified at this time.

Mitigation Measures

No mitigation measures are required.