

This section of the EIR for the Vineyards at Anderson project evaluates the biological resource impacts associated with the proposed project and includes a discussion of the mitigation measures necessary to reduce these impacts to a less than significant level, where possible. Information contained in this section is based on a review of documents pertaining to the natural resources of the study area, including: California Natural Diversity Database, California Department of Fish and Game (CDFG) 2007; California Native Plant Society [CNPS] Inventory of Rare and Endangered Vascular Plants of California [Skinner and Pavlik 1994]; a species list provided by the Sacramento Office of the U.S. Fish and Wildlife Service [USFWS]; a review of a site-specific biological analysis (Biological Resources Assessment [Gallaway Consulting 2003a; 2005a]); a Jurisdictional Delineation Report [Gallaway Consulting 2003b; 2005b]); and additional field investigations.

4.9.1 EXISTING SETTING

REGIONAL SETTING

The proposed project is located partly within and otherwise adjacent to the City of Anderson in Shasta County, California. This region of California is characterized as a dissected plain located between the Klamath Mountains to the north and west, and the northernmost extent of the Sierra Nevada foothills to the east. The plain is highly dissected by streams that drain toward the Sacramento River. Slopes range from nearly level to very gentle on remnants of depositional surfaces to moderately steep to steep in ravines.

The climate of the region is characterized as hot and sub-humid with an average precipitation of approximately 40 inches per year. Average annual temperature is about 51° to 76° Fahrenheit (WRCC 2005). Predominant upland vegetation communities within the region include: blue oak woodland, oak-pine woodland, oak savannah, chaparral, and annual grassland. Aquatic environments in the region include: seasonal and perennial streams that drain to the Sacramento River; vernal pools and other seasonal wetlands; freshwater marsh; groundwater seeps; and man-made ponds and reservoirs.

PROJECT SETTING

The proposed project site lies partly in the southwestern portion of the City of Anderson and mostly on unincorporated land of Shasta County immediately outside city limits. The project area comprises approximately 2,248 undeveloped acres (3.5 square miles) throughout which there are numerous oak (*Quercus* spp.) covered ridges, intermittent streams and seasonal drainages. The project study area (PSA) includes the entire Specific Plan area, excluding Phase 1 and Anderson Hills Parkway between Rhonda Road and the entrance to Phase 1, which were previously analyzed under CEQA for the Sanderson Subdivision (see **Figure 4.9-1**). Specifically, the PSA is located to the south of Olinda Road (with only a small portion north of Olinda Road), entirely to the west of Rhonda Road and north of Gas Point Road, and is located within the *Cottonwood, California* United States Geologic Survey (USGS) Quadrangle Map and incorporates all or part of Sections 21, 27, 28, 29, 33, 34 within the Township 30 north, Range 4 west, Mount Diablo Meridian. Adjacent land uses in the surrounding area include grazing and rural residential development. Elevations range from approximately 440 feet above mean sea level in the northeastern portion of the site along Olinda Road to approximately 690 feet in the southwestern area. The topography is characterized by a broad, flat east-west ridge with peninsulas of smaller ridges offering relatively flat areas divided by major and secondary seasonal drainages trending primarily north-south.

Natural Communities

Table 4.9-1 shows the total acreage of natural community/habitat types present within the PSA as well as a subset of that total acreage present within Phase 2. Natural community/habitat types present within the PSA include: annual grassland, blue oak woodland, seasonal wetland, fresh emergent wetland, pond, vernal pool, vernal swale, and riparian (Figure 4.9-2). Gallaway Consulting mapped the extent of all habitat types and other biological resources including waters of the United States that are present within the PSA using a classification system based on Mayer and Laudenslayer's *A Guide to Wildlife Habitats of California* (1988).

TABLE 4.9-1
NATURAL COMMUNITY/HABITAT TYPES PRESENT WITHIN THE PROJECT STUDY AREA

Community/ Habitat Type	Acres Present within Phase 2	Total Acres Present within PSA
Annual Grassland	None	91.83
Blue Oak Woodland	290.30	2,121.06
<i>Potential Jurisdictional Waters, Including Wetlands</i>		
Seasonal Wetland	0.86	8.01
Fresh Emergent Wetland	None	3.84
Pond	None	1.87
Vernal Pool	0.08	0.39
Vernal Swale	0.08	0.21
Ephemeral Drainages	0.44	2.90
Intermittent Drainages	1.12	14.09
Riparian	None	0.20
Culverts	None	0.01
<i>Total Potential Jurisdictional Features</i>	<i>2.58</i>	<i>31.52</i>
TOTAL	292.88	2,244.41

Source: Gallaway Consulting 2003a/b; 2005a/b

Annual Grassland

Introduced annual grasses are the dominant plant species in this habitat. Annual grasses within the PSA include wild oats (*Avena fatua*), soft chess (*Bromus hordeaceus*), rip gut brome (*Bromus diandrus*), red brome (*B. rubens*), wild barley (*Hordeum murinum*) and foxtail fescue (*Vulpia megalura*). Common forbs include broadleaf filaree (*Erodium botrys*), redstem filaree (*Erodium cicutarium*), turkey mullein (*Eremocarpus setigerus*), true clovers (*Trifolium* spp.), popcorn flower (*Plagiobothrys* spp.), and many others. Species composition is greatly influenced by seasonal and annual fluctuations in weather patterns.

Other wildlife species that may occur within the annual grasslands include the western fence lizard (*Sceloporus occidentalis*), common garter snake (*Thamnophis sirtalis*), western rattlesnake (*Crotalus viridis helleri*), black-tailed rabbit (*Lepus californicus*), California ground squirrel (*Spermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), western harvest mouse

(*Reithrodontomys megalotis*), California vole (*Microtus californicus*), American badger (*Taxidea taxus*), coyote (*Canis latrans*), foxes (*Vulpes* spp.) and black-tailed deer (*Odocoileus hemionus*).

Common birds known to breed in annual grassland include the burrowing owl (*Athene cunicularia hypugea*), short-eared owl (*Asio flammeus*), horned lark (*Eremophila alpestris*), western meadowlark (*Sturnella neglecta*), turkey vulture (*Cathartes aura*), northern harrier (*Circus cyaneus*), American kestrel (*Falco sparverius*), white-tailed kite (*Elanus leucurus*), and prairie falcon (*Falco mexicanus*).

Blue Oak Woodland

Blue oak woodland is a CDFG-designated sensitive natural community that occurs throughout the project study area. These woodlands generally have an overstory of scattered trees, but the canopy can be nearly closed on better quality sites. Blue oak (*Quercus douglasii*) is the dominant species, comprising roughly 85 to 100 percent of the tree species present. Common associates in the canopy include coast live oak (*Q. agrifolia*) and valley oak (*Q. lobata*). Associated shrub species commonly include poison oak (*Toxicodendron diversilobum*), California coffeeberry (*Rhamnus californica*), buckbrush (*Ceanothus cuneatus*), holly-leaf redberry (*Rhamnus ilicifolia*), California buckeye (*Aesculus californica*), and manzanita (*Arctostaphylos* spp.). Typical understory is composed of an extension of annual grassland vegetation.

According to Mayer and Laudenslayer (1988), with the exception of riparian habitat, hardwood habitats including blue oak woodlands, provide breeding habitat for more wildlife species than any other habitat in California. They estimated in 1980 that these woodlands provide important breeding habitat for over twenty-nine amphibian and reptile species, fifty-seven bird species and ten mammal species. Bird species include primary and secondary cavity nesters and insectivores such as acorn woodpecker (*Melanerpes formicivorus*), Nuttall's woodpecker (*Picoides nuttalli*), northern flicker (*Colaptes auratus*), American kestrel (*Falco sparverius*), western screech owl (*Megascops kennicottii*), ash-throated flycatcher (*Myiarchus cinerascens*), western wood-peewee (*Contopus sordidulus*), plain titmouse (*Parus inornatus*), Bewick's wren (*Thryomanes bewickii*) and Hutton's vireo (*Vireo huttoni*). Reptiles and amphibians common to this habitat include western toad (*Bufo boreas*), Pacific treefrog (*Hyla regilla*) and gopher snake (*Pituophis catenifer*). Common mammals include black-tailed deer (*Odocoileus hemionus columbianus*), raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*) and dusky-footed woodrat (*Neotoma fuscipes*).

Potential Jurisdictional Waters, Including Wetlands

Seasonal Wetlands

Seasonal wetlands tend to lack standing water during the late summer months, or during prolonged dry periods. These features allow water to pond for a long enough period of time to support hydrophytic vegetation and hydric soils. They support hydrophytic species, such as spike-rush (*Eleocharis* spp.) that require longer and typically deeper inundation periods than those of vernal species. Accordingly, seasonal wetlands lack underlying hardpan common with vernal pools and swales.

Many wildlife species are dependent on wetland habitats for foraging, nesting, and cover. Wetlands also provide habitat for the American coot (*Fulica americana*), great blue heron (*Ardea herodias*), great egret (*Ardea alba*), and black phoebe (*Sayornis nigricans*).

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Fresh Emergent Wetland

This wetland type is a mixture of erect, rooted herbaceous hydrophytes that prosper in anaerobic, frequently flooded areas. Fresh emergent wetlands often occur around lake edges and areas with standing water for most of the year. Edge vegetation includes sedges (*Carex* spp.), rushes (*Scirpus* spp.), and nutgrasses (*Cyperus* spp.). Areas that are slightly deeper and wet for longer periods of time consist of cattail (*Typha* spp.), bulrush (*Scirpus* spp.), and arrowhead (*Sagittaria* spp.).

Birds, reptiles, and amphibians rely on fresh emergent wetlands for shelter, breeding, nesting, and foraging. Fresh emergent wetlands are among the most productive wildlife habitats in California. They provide food, cover, and water for more than 160 species of birds, and numerous mammals, reptiles, and amphibians (CDFG 2002). Many species rely on fresh emergent wetlands for their entire life cycle.

Vernal Pool and Vernal Swale

In addition to supporting positive indicators for hydrophytic vegetation, hydric soils, and wetland hydrology, vernal pools exhibit unique characteristics. Vernal pools form where there is a soil layer below or at the surface that is impermeable or nearly impermeable (USFWS 2002). Precipitation and surface runoff become trapped or “perched” above this layer. Hardpans are formed by leaching, re-deposition, and cementing of silica materials from high in the soil horizon to a lower (“B”) horizon (USFWS 2002). In addition, vernal pools typically occur in landscapes that, at a broad scale, are shallowly sloping or nearly level, but on a finer scale may be quite bumpy or uneven. Complex mound-swale micro-relief, as is present onsite, results in shallow undrained depressions that commonly form vernal pools. Since appropriate combinations of climate, soil, and topography often occur over continuous areas rather than in isolated spots, vernal pools in the Central Valley tend to occur in clusters called “complexes.” Within these complexes, pools may be fed or connected by low drainage pathways called “swales,” which were detected in areas throughout the PSA. Swales are often themselves seasonal wetlands that remain inundated with water for much of the wet season, but not long enough to support strong vernal pool characteristics. Vernal pools may remain inundated until spring or early summer, sometimes filling and emptying numerous times during the wet season. Vernal pools gradually dry down during the spring, often forming a unique “bathtub ring” of flowers from endemic vernal pool plants blooming profusely at the pool margins, which was also observed during the survey.

The specialized conditions and ephemeral nature of vernal pools have allowed many species of native plants and animals to evolve and adapt to living only in vernal pools of California. Vernal pools and other seasonal wetlands are important breeding and foraging habitats for aquatic invertebrates (e.g. federally-listed vernal pool fairy shrimp [*Branchinecta lynchi*] and vernal pool tadpole shrimp [*Lepidurus packardii*]) and amphibians (e.g. western spadefoot [*Spea hammondi*]). Protocol-level surveys to determine presence/absence of federally-listed vernal pool invertebrates was initiated in November 2005. One wet season (Gallaway Consulting 2006) and one dry season (Helm 2007) survey have been completed. The results of these studies concluded that federally-listed branchiopod species do not occur within the seasonal wetland and vernal pool habitats found within the PSA.

Other Waters of the United States

“Other Waters of the U. S.” are defined as seasonal or perennial water bodies, including lakes, stream channels, ponds, drainages, and other surface water features, that exhibit an ordinary

high-water mark but lack positive indicators for one or more of the three wetland parameters (i.e., hydrophytic vegetation, hydric soil, and wetland hydrology) (33CFR 328.4). Gallaway Consulting biologists applied the above definition when delineating and mapping all “Other Waters of the U.S.” within the PSA. Drainages within the PSA exhibit an ordinary high water mark and display bed, bank, and scour morphology. A total of 2.9 acres (93,408 linear feet) of ephemeral drainages and 14.09 acres (148,353 linear feet) of intermittent drainages occur within the PSA (Table 4.9-2). Additionally, 1.87 acres of pond habitat occur within the PSA.

**TABLE 4.9-2
OTHER WATERS OF THE U.S. WITHIN THE PROJECT STUDY AREA**

Other Waters of the U.S.	Acres within Phase 2	Linear Feet within Phase 2	Total Acres within PSA	Total Linear Feet within PSA
Ephemeral Drainage	0.44	14,034	2.90	93,408
Intermittent Drainage	1.12	16,821	14.09	148,353
Pond	None	N/A	1.87	N/A

Listed and Special-Status Plants and Animals

The following discussion describes the plant and animal species in the PSA that have been afforded special recognition by federal, state, or local resource agencies or organizations. Listed and special-status species are of relatively limited distribution and may require specialized habitat conditions. Listed and special-status species are defined as:

- Listed or proposed for listing under the state or federal Endangered Species acts;
- Protected under other regulations (e.g. Migratory Bird Treaty Act);
- California Department of Fish and Game (CDFG) Species of Special Concern;
- Listed as species of concern by the California Native Plant Society (CNPS) or United States Department of Fish and Wildlife Service (USFWS); or,
- Receive consideration during environmental review under CEQA.

The CDFG’s California Natural Diversity Database (CNDDDB) was queried for a list of special-status wildlife, botanical, and fisheries resources with previously recorded occurrences in the PSA and vicinity (CDFG 2007a). The database search was performed for special-status species within the Cottonwood USGS 7.5-minute quadrangle and the eight surrounding quadrangles (Redding, Enterprise, Palo Cedro, Olinda, Balls Ferry, Mitchell Gultch, Hooker, and Bend). **Appendix 4.9-1** includes a copy of the CNDDDB query results. Locations of previously recorded occurrences of special-status species as documented in CNDDDB are shown on **Figure 4.9-3**.

The CNPS inventory was also searched for rare or endangered plants that may occur within the PSA. This query was performed for CNPS List 1A, List 1B, and List 2 special-status plants occurring in the surrounding USGS 7.5-minute quadrangles listed above (CNPS 2007). (See **Appendix 4.9-1**.) List 1A species are presumed extinct in California. List 1B species are considered rare or endangered in California, but are more common elsewhere. List 2 species are considered rare, threatened, or endangered in California, but are more common elsewhere.

In addition, the USFWS list for the USGS 7.5 minute quadrangles listed above was consulted for federally-listed or candidate plant and wildlife species that could potentially be affected by the proposed action (USFWS 2007). An electronic request was submitted online to the USFWS for a list

of federal special-status species potentially occurring in the PSA and surrounding USGS 7.5 minute quadrangles. **Appendix 4.9-1** includes a copy of the USFWS list and letter.

Range and habitat information used to determine the potential for occurrence of special-status wildlife and plant species in the PSA was obtained from the California Wildlife Habitat Relationships (CWHR) program version 8 (CDFG 2002).

Figure 4.9-3 shows the location of the special-status species within a one-mile radius of the PSA. A complete list of special-status species from the database searches is located in **Appendix 4.9-2** with rationale for why they were considered in this impact analysis.

Special-Status species were considered for this analysis based on field survey results, a review of the CNDDDB, CNPS, and USFWS databases, and consideration of habitats found within the PSA. Species not considered in this analysis are species either not expected to occur within the PSA based on the known range of the species or not expected to occur due to lack of suitable habitat within the PSA. Federal- and state-listed and other special-status species that are known or expected to occur within the PSA are discussed below. Those special-status species that are considered in this analysis are listed in **Table 4.9.3** according to habitat type.

**TABLE 4.9-3
SPECIAL-STATUS SPECIES CONSIDERED IN THE IMPACT ANALYSIS ORGANIZED BY HABITAT TYPE**

Community/ Habitat Type	Special-Status Species Potentially Occurring within the PSA	Acres Present in Phase 2	Total Acres Present in the PSA
Annual Grassland	Henderson's bent grass Pink creamsacs – serpentine soils Silky cryptantha Red Bluff dwarf rush Ahart's paronchya Cooper's hawk Sharp-shinned hawk Ferruginous hawk Northern harrier White-tailed kite Prairie falcon American peregrine falcon Bald eagle Osprey Oak titmouse Lawrence's goldfinch California horned lark Loggerhead shrike Lewis' woodpecker Nuttall's woodpecker Short-eared owl Western burrowing owl American badger	None	91.83
Blue Oak Woodland	Henderson's bent grass Pink creamsacs – serpentine soils Silky cryptantha Red Bluff dwarf rush Ahart's paronchya Cooper's hawk Sharp-shinned hawk Ferruginous hawk Northern harrier White-tailed kite	290.30	2,121.06

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Community/ Habitat Type	Special-Status Species Potentially Occurring within the PSA	Acres Present in Phase 2	Total Acres Present in the PSA
	Prairie falcon American peregrine falcon Bald eagle Osprey Oak titmouse Lawrence's goldfinch California horned lark Loggerhead shrike Lewis' woodpecker Nuttall's woodpecker Short-eared owl Western burrowing owl Pallid bat Western red bat Hoary bat Long-eared Myotis Yuma myotis American badger		
Potential Jurisdictional Waters, Including Wetlands			
Seasonal Wetland	Fox sedge Pink creamsacs – serpentine soils Red Bluff dwarf rush Northern harrier Bald eagle Osprey Tri-colored blackbird	0.86	8.01
Fresh Emergent Wetland	Fox sedge Bogg's lake hedge hyssop Northern harrier Bald eagle Osprey Tri-colored blackbird	None	3.84
Pond	Fox sedge Northwestern pond turtle Great egret Great blue heron Snowy egret	None	1.87
Vernal Pool	Henderson's bent grass Bogg's lake hedge hyssop Red Bluff dwarf rush Legenere Slender orcutt grass Ahart's paronchyia Western spadefoot	0.08	0.39
Vernal Swale	Henderson's bent grass Bogg's lake hedge hyssop Red Bluff dwarf rush Legenere Slender orcutt grass Ahart's paronchyia Western spadefoot	0.08	0.21
Ephemeral Drainages	California red-legged frog Great egret Great blue heron Snowy egret Yellow breasted chat	0.44	2.90
Intermittent Drainages	California red-legged frog Great egret Great blue heron	1.12	14.09

Community/ Habitat Type	Special-Status Species Potentially Occurring within the PSA	Acres Present in Phase 2	Total Acres Present in the PSA
	Snowy egret Yellow-breasted chat		
Riparian	Fox sedge Silky cryptantha California red-legged frog Great egret Great blue heron Snowy egret Cooper's hawk Sharp-shinned hawk White-tailed kite Bald eagle Osprey Yellow breasted chat Loggerhead shrike Bank swallow	None	0.2
Culverts	Pallid bat Western red bat Hoary bat Long-eared myotis	None	0.01

SPECIAL-STATUS PLANT SPECIES OCCURRENCES

Provided below are species accounts for each of the special-status plant species that have the potential to occur in the PSA according to results of database searches, habitat survey, and/or historic records.

Ahart's paronychia (*Paronychia ahartii*) is designated as List 1B by CNPS. This annual herb in the Caryophyllaceae family is found in cismontane woodland, valley and foothill grasslands, and vernal pools. The blooming period for this species is between March and June. The known elevation range for this species is between 30 and 510 meters above mean sea level.

Bogg's lake hedge hyssop (*Gratiola heterosepala*) is state-listed as endangered and designated as List 1B by CNPS. This annual herb in the Scrophulariaceae family is found in marshes, swamps, lake margins, and vernal pools with clay soils. The blooming period for this species is between April and August. The known elevation range for this species is between 10 and 2,375 meters above mean sea level.

Fox sedge (*Carex vulpinoidea*) is designated as List 2 by CNPS. This perennial herb in the Cyperaceae family is found in freshwater marshes and swamps, and riparian woodland. The blooming period for this species is between May and June. The known elevation range for this species is between 30 and 1,200 meters above mean sea level.

Henderson's bent grass (*Agrostis hendersonii*) is designated as List 3 by CNPS. This annual herb in the Poaceae family is found in valley and foothill grassland and vernal pools. The blooming period for this species is between April and May. The known elevation range for this species is between 70 and 305 meters above mean sea level.

Legenere (*Legenere limosa*) is designated as List 1B by CNPS. This annual herb in the Campanulaceae family is found in vernal pools. Many historical occurrences have been extirpated. The blooming period for this species is between April and June. The known elevation range for this species is between 1 and 880 meters above mean sea level.

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Pink creamsacs (*Castilleja rubicundula ssp. rubicundula*) is designated as List 1B by CNPS. This annual herb in the Scrophulariaceae family is found in chaparral (openings), cismontane woodland, meadows and seeps, valley and foothill grassland in serpentinite soils. The blooming period for this species is between April and June. The known elevation range for this species is between 20 and 900 meters above mean sea level.

Red Bluff dwarf rush (*Juncus leiospermus var. leiospermus*) is designated as List 1B by CNPS. This species is a monocot in the family Juncaceae that is found in vernal pool habitats in the valley foothill grasslands of the northern Sacramento Valley. It is an annual herb, native and endemic to California. The CNPS has ranked Red Bluff dwarf rush as very rare. This plant is threatened by residential and commercial development, industrial forestry and agriculture. Red Bluff dwarf rush was not located on the site despite multiple visits to suitable habitat. This annual herb in the Juncaceae family is found in chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, and vernal pools. The blooming period for this species is between March and May. The known elevation range for this species is between 35 and 1,020 meters above mean sea level. Red Bluff dwarf rush was not found after multiple visits to areas containing suitable habitat.

Silky cryptantha (*Cryptantha crinita*) is designated as List 1B by CNPS that is known to occur within the Specific Plan area. Silky cryptantha inhabits cismontane woodlands, lower montane coniferous forests, riparian forests, riparian woodlands, valley and foothill grasslands and gravelly streambeds. Silky cryptantha was detected along streambeds within the northern portion of the Specific Plan area. This annual herb in the Boraginaceae family is found in cismontane woodland, lower montane coniferous forest, riparian forest, riparian woodland, and valley and foothill grassland in gravelly streambeds. The blooming period for this species is between April and May. The known elevation range for this species is between 85 and 1,215 meters above mean sea level.

Slender orcutt grass (*Orcuttia tenuis*) is federally threatened, state-listed as endangered, and designated as List 1B by CNPS. This annual herb in the Poaceae family is found in vernal pools. The blooming period for this species is between May and September. The known elevation range for this species is between 35 and 1,760 meters above mean sea level. Slender orcutt grass was not found after multiple visits to areas containing suitable habitat.

SPECIAL-STATUS WILDLIFE SPECIES OCCURRENCES

Provided below are species accounts for each of the special-status wildlife species that have potential to occur in the PSA according to results of database searches, a habitat survey, and/or historic records.

INVERTEBRATES

Vernal Pool Branchiopods

Suitable habitat for four species of vernal pool branchiopods is present within the vernal pool and seasonal wetland habitat within the PSA. These vernal pool branchiopod species include vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardii*), and California linderiella (*Linderiella occidentalis*). Protocol-level surveys to determine presence/absence of listed vernal pool invertebrates was initiated in November 2005. One wet season survey (Gallaway 2006) and one dry season survey (Helm 2007) have been completed. The results of these studies concluded that special-status branchiopod species do not occur

within the seasonal wetland and vernal pool habitat within the PSA. No further discussion of these species is necessary.

Terrestrial Invertebrates

Valley elderberry longhorn beetle (VELB; *Desmocerus californicus dimorphus*) is a federally threatened species that occurs in the Central Valley of California only where its host plant, the elderberry (*Sambucus* spp.), is found. In the Central Valley, the elderberry is associated with riparian forests. The exit holes made by the emerging adults are distinctive one-half to one centimeter round or oval openings. The entire life cycle of the VELB revolves around the elderberry. Adults eat the elderberry foliage until about June when they mate. The females lay eggs in crevices in the bark. Upon hatching the larvae then begin to tunnel into the tree, where they will spend one to two years eating the interior wood, which is their sole food source. Elderberry shrubs may be present within the PSA. There is one previously recorded occurrence within a five-mile radius of the PSA.

FISH

There are no anadromous fisheries within the PSA. Anderson Creek, downstream from the PSA, has the potential for rearing habitat for juvenile salmon and steelhead but, due to stream fragmentation, dewatering and man-made obstacles, fish are not able to travel upstream into the PSA.

AMPHIBIANS

California red-legged frog (*Rana aurora draytonii*) is listed as federally threatened and a species of special concern in California. California red-legged frogs were formerly widely distributed on the floor of the Central Valley. Their decline has been linked to the introduction of the bullfrog (*Rana catesbiana*), non-native fishes, cattle grazing, and other factors. Suitable habitat includes permanent, slow-moving watercourses or ponds with overhanging or emergent vegetation. The southern portion of the PSA lies within a core recovery area as described in the USFWS *Recovery Plan for the California Red-legged Frog* (2002). Core recovery areas for red-legged frogs are defined by their potential to support viable populations and for their potential to create habitat corridors, thus increasing dispersal opportunities between populations. Preservation and enhancement of the core recovery areas are critical in maintaining and expanding the distribution of California red-legged frog populations range-wide. The historic range of California red-legged frogs has been reduced 70% in California. This is primarily due to loss of habitat, overexploitation and the introduction of exotic predators (USFWS 2002). Red-legged frogs are most likely to be found in lowland or foothill ponds and streams especially near grasses, cattails and bulrushes that provide dense riparian cover. There is one small pond located within the PSA that may have historically provided habitat for red-legged frogs (Gallaway Consulting 2005a). The pond is densely inhabited by bullfrogs, an invasive, predatory species that may have out-competed red-legged frogs (Gallaway Consulting 2005a). Sub-marginal habitat is present onsite. There are no previously recorded occurrences within five miles of the PSA.

Western spadefoot toad (*Spea (=Scaphiopus) hammondi*) is a state species of concern. Historically, the western spadefoot ranged from Redding to northwestern Baja California. In California, the species was found throughout the Central Valley and in the Coast Ranges and coastal lowlands from San Francisco Bay to Mexico. It has been extirpated from many locations within this range. Western spadefoot toads breed from January to May in temporary pools. Sub-

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marginal breeding and foraging habitat is present onsite. There is one previously recorded occurrence within five miles of the PSA.

REPTILES

Northwestern pond turtle (*Actinemys marmorata marmorata*) is a California species of special concern. Suitable habitat for pond turtles includes ponds or slowly moving bodies of water with aquatic vegetation, debris within the water or banks for basking, and invertebrate and vertebrate prey. This species is highly aquatic, but nests on land up to several hundred yards from water. Northwestern pond turtles are active from approximately March through October with peak activity in May and June. The turtles are inactive during winter months and will either bury themselves in the bottom mud of ponds or other waterways or move upland away from water. This species is estimated to be in decline throughout 75 to 80 percent of its range and have been extirpated from much of their original range. Sub-marginal habitat is present onsite, although no turtles were observed during the survey (Galloway Consulting 2005a). There is one previously recorded occurrence within five miles of the PSA.

BIRDS

Great egret (*Ardea alba*) is protected under the Migratory Bird Treaty Act (MBTA). This species typically nest in large breeding colonies or rookeries. Rookeries typically found in large trees in riparian habitat. Breeding season is typically between February and August. Suitable habitat is present within the PSA. There are no previously recorded occurrences within five miles of the PSA.

Great blue heron (*Ardea herodias*) is protected under the MBTA. This species can be found in the Nearctic and Neotropical regions. During the spring and summer, they breed throughout North and Central America, the Caribbean, much of Canada and the Galapagos. They are common in river and lake edges, wet meadows, freshwater marshes, swamps, fields, and other wetland environments. They usually nest in trees or bushes that stand near water. Suitable habitat is present within the PSA. There are no previously recorded occurrences within five miles of the PSA.

Snowy egret (*Egretta thula*) is protected under the MBTA. The snowy egret can be found in marshes, swamps, shorelines, mudflats, and ponds. Suitable habitat is present within the PSA. There are no previously recorded occurrences within five miles of the PSA.

Falconiformes

Cooper's hawk (*Accipiter cooperi*) is a California species of special concern and protected under the MBTA. This species nests in oak woodlands and riparian forests, and forages in open woodlands and woodland edges. Suitable habitat is present within the PSA. There are no previously recorded occurrences within five miles of the PSA.

Sharp-shinned hawk (*Accipiter striatus*) is a California species of special concern and protected under the MBTA. Like Cooper's hawk, this species nests and forages in open woodlands and riparian forests. Suitable habitat is present within the PSA. There are no previously recorded occurrences within five miles of the PSA.

Ferruginous hawk (*Buteo regalis*) is protected under the MBTA and is a California species of special concern. Ferruginous hawks are birds of open country. They are found in open habitats,

such as grasslands, sagebrush, deserts, shrublands, and outer edges of pinyon-pine and other forests. They select rocky outcrops, hillsides, rock pinnacles, or trees for nest sites. Suitable habitat is present within the PSA. There are no previously recorded occurrences within five miles of the PSA.

Northern harrier (*Circus cyaneus*) is a California species of special concern and protected by the MBTA. This species nests and forages in grasslands. This species usually nests on the ground, usually at the edge of a marsh. Nesting habitat may include freshwater marshes and habitat along rivers or lakes, but the species may also nest in grasslands, grain fields, or on sagebrush flats several miles from water. The northern harrier may also be found foraging in meadows, grasslands, open rangelands, desert sinks, fresh and saltwater emergent wetlands. This species breeds from approximately April to September. Suitable habitat is present within the PSA. There are no previously recorded occurrences within five miles of the PSA.

White-tailed kite (*Elanus leucurus*) is a California fully protected species. This species nests in rolling foothills and valley margins with scattered oaks, riparian woodlands, or marshes next to deciduous woodland, and forages in open grasslands, meadows, or marshes. White-tailed kites are known to forage for small rodents and insects in agricultural areas, especially alfalfa fields. Nests are generally built in available trees near hunting grounds. This species is known to occur onsite (Gallaway Consulting 2005a). Suitable habitat is present within the PSA. There are no previously recorded occurrences within five miles of the PSA.

Prairie falcon (*Falco mexicanus*) is a California species of special concern that inhabits dry, open terrain, such as grasslands, and in hills, canyons, and mountains. Nesting sites are generally located on rocky cliffs facing open habitat, and foraging areas include open grasslands and shrublands. Suitable habitat is present within the PSA. There are no previously recorded occurrences within five miles of the PSA.

American peregrine falcon (*Falco peregrinus anatum*) has been delisted from the federal list, but is still protected under the MBTA and is also state-listed as endangered and a California fully protected species. Generally, the peregrine falcon is found in open habitats from tundra, savannah, and coastal areas to high mountains. It is most commonly associated with tall cliffs with wide open views which are used for perching and nesting and usually near a water source. Cliffs, ledges, caves, or small holes with protection from the weather provide nesting sites. Typically, this species breeds in woodland, forest, and coastal habitats. Suitable habitat is present within the PSA. There are no previously recorded occurrences within five miles of the PSA.

Bald eagle (*Haliaeetus leucocephalus*) has been federally delisted, but is still state-listed as endangered and protected under the Bald and Golden Eagle Protection Act, MBTA and is a California fully protected species. This species is a permanent resident, and uncommon winter migrant, now restricted to breeding mostly in Butte, Lake, Lassen, Modoc, Plumas, Shasta, Siskiyou, and Trinity counties. They inhabit ocean shore, lake margins, and rivers, both nesting and wintering. The species builds stick nests within large, tall trees, typically within one mile of permanent water. Bald eagles breed from February to July. Suitable habitat is present within the PSA. There are two previously recorded occurrences within five miles of the PSA.

Osprey (*Pandion haliaetus*) is a species of concern in California. Ospreys are primarily found along rivers, lakes, reservoirs, and seacoasts, occurring widely in migration, often crossing land between bodies of water. Ospreys nest in dead snags, living trees, cliffs, utility poles, wooden platforms on poles, channel buoys, chimneys, windmills, etc., usually near or above water. Nests

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are often used in successive years. Suitable habitat is present within the PSA. There are six previously recorded occurrences within five miles of the PSA.

Passerines

Tri-colored blackbird (*Agelaius tricolor*) is a California species of special concern. This species is endemic to California and southern Oregon and is a year-round resident of California. The tri-colored blackbird nests colonially in stands of cattails, tules, blackberries, or other dense herbaceous vegetation. This species may be found foraging in grasslands or croplands. Suitable habitat is present within the PSA. There are two previously recorded occurrences within five miles of the PSA.

Oak titmouse (*Baeolophus inornatus*) is protected under the MBTA. The oak titmouse lives year-round in California's oak or oak-pine woodlands. Oak titmice nest in natural cavities, old woodpecker holes, and artificial nest boxes. The species requires an elevated perch from which to forage, and changes its feeding strategy to correspond with the seasons. The greatest threat to the species is habitat loss due to residential development of oak woodlands, which is having a significant impact. Sudden Oak Death, a fungal disease affecting oaks, also presents a long-term threat to oak titmouse habitat. Suitable habitat is present within the PSA. This species is known to occur onsite (Gallaway Consulting 2005a).

Lawrence's goldfinch (*Carduelis lawrencei*) is protected under the MBTA. This species has a breeding range that extends from the Central Valley and coastal foothills of California to the northern portion of Baja California. The distribution of the population within this range often varies widely from year to year; indeed, in some years the species seems to be virtually absent from its breeding range altogether, without appearing elsewhere. Movements between breeding and wintering grounds are also erratic and complex. The winter range encompasses southern Arizona, southwestern New Mexico, and northern Mexico. The species also occurs irregularly in its breeding range during winter. In certain years, large numbers may irrupt from California as far eastward as west Texas, but in other years, few if any birds are observed in this range. These erratic movements make it difficult to estimate bird population numbers. There is believed to be a downward trend in this species (Davis 1999). Lawrence's goldfinches nest April to July in arid open woodlands near chaparral, weed fields and small bodies of water. Thistle seeds are the preferred food (Davis 1999). Much of the breeding range of this species is under pressure from the increasing human population and accompanying development. Especially given its relatively small overall population size, habitat loss from development may put the species at risk (Davis 1999). Suitable habitat is present within the PSA. There are no previously recorded occurrences within five miles of the PSA.

California horned lark (*Eromophila alpestris actia*) is a California species of special concern that occupies short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, and alkali flats in coastal regions, chiefly from Sonoma County to San Diego County, but also within the San Joaquin Valley. It nests in open, sparsely vegetated grasslands. Suitable habitat is present within the PSA. There are no previously recorded occurrences within five miles of the PSA.

Yellow breasted chat (*Icteria virens*) is protected under the MBTA and is a California species of special concern. The yellow-breasted chat is a migrant species that nests in riparian habitats along rivers and streams up to 4,800 feet on the west side of the Sierra Nevada. The species breeds from May to July. Suitable habitat is present within the PSA. There are no previously recorded occurrences within five miles of the PSA.

Loggerhead shrike (*Lanius ludovicianus*) is a California species of special concern that inhabits open areas with clear visibility for hunting, perches for scanning, and fairly dense shrubs and brush for nesting. Suitable habitat is present within the PSA. There are no previously recorded occurrences within five miles of the PSA.

Bank swallow (*Riparia riparia*) is a species of concern in California. The bank swallow is a colonial nesting bird, which normally nests in vertical banks just under the root line along the banks of rivers. The bank swallow is largely found in riparian ecosystems, particularly rivers in the larger lowland valleys of northern California. Suitable habitat is present within the PSA. There is one previously recorded occurrence within five miles of the PSA.

Piciformes

Lewis' woodpecker (*Melanerpes lewis*) is protected under the MBTA. Lewis' woodpeckers inhabit open, deciduous and conifer habitats with a brushy understory, and scattered snags and live trees for nesting and perching. The species seasonally winters in blue-oak woodlands. Suitable habitat is present within the PSA and the species is known to occur onsite (Gallaway Consulting 2005a).

Nuttall's woodpecker (*Picoides nuttalli*) is protected under the MBTA. Nuttall's woodpeckers inhabit low-elevation riparian deciduous and oak habitats. They are usually found amongst a mix of deciduous riparian and adjacent oak habitats. They require snags and dead limbs for nest excavation. Suitable habitat is present within the PSA and the species is known to occur onsite (Gallaway Consulting 2005a).

Strigiformes

Short-eared owl (*Asio flammeus*) is protected under the MBTA and is a California species of special concern. This species inhabits broad expanses of open land with low vegetation for nesting and foraging. In general, suitable breeding habitat includes any area that has low vegetation with some dry upland for nesting and supports a suitable prey base. The species nests on the ground generally in a slight depression often beside or beneath a bush or clump of grass. Many nests are near water, but generally on dry sites. Suitable habitat is present within the PSA. There are no previously recorded occurrences within five miles of the PSA.

Western burrowing owl (*Athene cunicularia hypugea*) is a California species of special concern. Burrowing owls are year-round residents in the open, dry grasslands of the Central Valley. During fall and winter, local residents may move from nesting areas, and migrants may move in. Burrowing owls nest and take shelter in burrows in the ground, typically burrows excavated by other species such as ground squirrels. They forage in grasslands and agricultural fields. Suitable habitat is present within the PSA. There are no previously recorded occurrences within five miles of the PSA. Further protocol-level surveys should be conducted within areas of suitable habitat during the nesting season and within one year prior to the commencement of construction to determine breeding status (Gallaway Consulting 2005a).

Raptors and Migratory Birds (other than those listed above)

Trees within the PSA provide potential nest sites for other migratory birds and raptors that could also forage within the PSA. Migratory birds forage and nest in a variety of habitats, including annual grassland, blue oak woodland and urban regions. Active bird nests potentially found within the PSA are protected under the federal Migratory Bird Treaty Act as a Migratory Non-

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game Bird Management of Concern. Section 3503.5 of the CDFG Code also outlaws their disturbance or destruction. Under the MBTA, it is illegal to destroy any active migratory bird nest.

MAMMALS

Pallid bat (*Antrozous pallidus*) is a California species of special concern. Pallid bats roost in rock crevices, tree hollows, mines, caves, and a variety of anthropogenic structures, including vacant and occupied buildings. Occurrences are primarily in arid habitats. Colonies are usually small and may contain twelve to one hundred bats. Suitable habitat is present within the PSA. There is one previously recorded occurrence within five miles of the PSA.

Silver-haired bat (*Lasionycteris noctivagans*) is a California species of special concern. This species prefers forested (frequently coniferous) areas adjacent to lakes, ponds, and streams. Summer roosts and nursery sites are in tree foliage, cavities, and under loose bark. Buildings are also sometimes used. Suitable habitat is present within the PSA. There is one previously recorded occurrence within five miles of the PSA.

Western red bat (*Lasiurus blossevillii*) is a California species of special concern. These bats are found along the west coast and southwestern United States and into Mexico, where they are thought to hibernate in the winter. They are solitary creatures that roost in broad-leaved trees, especially cottonwoods and willows in the foothills and lower mountains of the southwest, and in the fruit and nut orchards of the west, where they resemble dried leaves when they are curled up and asleep. They are often found near streams. Suitable habitat is present within the PSA. There is one previously recorded occurrence within five miles of the PSA.

Hoary bat (*Lasiurus cinereus*) is a California species of special concern. This species is basically solitary, except for mother-young associations. During migration, however, groups of many individuals may form. This species is found in a variety of habitats. Dispersed population allows little opportunity to obtain density figures. Those migrating through the western U.S. in fall go south at least into Mexico.

Long-eared myotis (*Myotis evotis*) is a small insectivorous bat found in mostly forested areas, especially those with broken rock outcrops; also shrubland, over meadows near tall timber, along wooded streams, over reservoirs. This species often roosts in buildings, also in hollow trees, mines, caves, fissures, etc. Suitable habitat is present within the PSA. There are no previously recorded occurrences within five miles of the PSA.

Yuma myotis (*Myotis yumanensis*) is a small bat. Females form maternity colonies in April. In California, young are born apparently from late May to mid-June. Colonies disperse by the end of September. More closely associated with water than most other North American bats. Found in a wide variety of upland and lowland habitats, including riparian, desert scrub, moist woodlands and forests, but usually found near open water. This species flies low. Nursery colonies usually are in buildings, caves and mines, and under bridges. Suitable habitat is present within the PSA. There are no previously recorded occurrences within five miles of the PSA.

American badger (*Taxidea taxus*) is a California species of special concern. This species is a stout-bodied, primarily solitary species that hunts for ground squirrels and other small mammal prey in open grassland, cropland, deserts, savanna, and shrubland communities. Badgers have large home ranges and spend inactive periods in underground burrows. Badgers typically mate in mid- to late summer and give birth between March and April. Suitable habitat is present within the PSA. There are no previously recorded occurrences within five miles of the PSA.

SENSITIVE HABITATS

Sensitive habitats include: a) areas of special concern to resource agencies; b) areas protected under CEQA; c) areas designated as sensitive natural communities by CDFG; d) areas outlined in Section 1600 of the California Fish and Game Code; e) areas regulated under Section 404 of the federal Clean Water Act (CWA); and f) areas protected under local regulations and policies. Sensitive habitats within the PSA include blue oak woodland, the riparian corridor along Anderson and Olinda Creeks, and jurisdictional waters of the U.S., as regulated under Section 404 of the CWA.

Blue oak woodland is a CDFG-designated sensitive natural community that occurs throughout the PSA. Oak woodlands are rapidly disappearing in California and, as defined in CEQA, further elimination would result in significant adverse impacts. CDFG has designated blue oak woodlands as a "threatened" natural community (State Rank 3.2).

There are a total of 31.52 acres of potential Waters of the U.S., including wetlands, delineated within the PSA. This includes 16.99 acres of other waters of the U.S. (14.09 acres of intermittent drainages and 2.90 acres of ephemeral drainages) and 14.52 acres of potential jurisdictional wetland features (0.2 acres of riparian habitat, 0.39 acres of vernal pools, 0.21 acres of vernal swales, 8.01 acres of seasonal wetlands, 3.84 acres of fresh emergent wetlands, and 1.87 acres of pond) (Gallaway Consulting 2003b; 2005b).

None of the sensitive habitat that would be affected by implementation of the proposed project is considered USFWS "critical habitat" based on critical habitat maps for federally-listed species. USFWS defines critical habitat as a specific area that is essential for the conservation of a federally-listed species and which may require special management considerations or protection.

WILDLIFE CORRIDORS

Wildlife corridors refer to established migration routes commonly used by resident and migratory species for passage from one geographic location to another. Corridors are present in a variety of habitats and link otherwise fragmented acres to undisturbed area. Maintaining the continuity of established wildlife corridors is important to a) sustain species with specific foraging requirements, b) preserve a species' distribution potential, and c) retain diversity among many wildlife populations. Therefore, resource agencies consider wildlife corridors to be a sensitive resource. The riparian corridors along the creeks and drainages within the PSA serve as aquatic and terrestrial wildlife migration corridors for areas within and surrounding the PSA.

Resident Wildlife

In addition to numerous species of special concern, the PSA supports a large number of other common wildlife species. These include: black-tailed deer, mountain lion, bobcat, grey fox, coyote, cottontail rabbit, jack-rabbit, ground-squirrel, gray squirrel, raccoon, ringtail, Virginia opossum, striped skunk, and numerous small rodents. Bird species within the PSA include: California quail, wild turkey, and numerous other species of passerines and waterfowl. Although these species are not listed as species of special concern, they may still require special attention, particularly because of the large size of the proposed project and the potential for it to affect a significant amount of habitat for the species listed above.

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Concerning black-tailed deer habitat, the PSA lies within the North Coast Deer Assessment Unit (DAU). Population trends within this DAU show declining numbers, mainly due to loss of habitat. Due to the importance of oak woodlands to deer populations and the potential to negatively affect oak woodlands, a net loss of deer habitat may prompt CDFG to require a mitigation and monitoring plan (pers. comm. Stowers 2005).

4.9.2 REGULATORY FRAMEWORK

This section summarizes the federal and state regulations that protect special-status species, "Waters of the U.S.," and wetland habitats. This section also discusses pertinent City of Anderson, ordinances, and policies relating to the protection and preservation of biological resources.

SPECIAL-STATUS SPECIES PROTECTION

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) generally prohibits the "taking" of a species listed as endangered or threatened (16 USC 1532, 50 CFR 17.3). Under the FESA, the "take" of a threatened or endangered species is deemed to occur when an intentional or negligent act or omission results in any of the following actions: "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." The term "harm" includes acts that result in death or injury to wildlife. Such acts may include significant habitat modification or degradation if it results in death or injury to wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. For projects with a federal nexus, Section 7 of the FESA requires that federal agencies, in consultation with USFWS or NOAA Fisheries, use their authorities to further the purpose of FESA and to ensure that their actions are not likely to jeopardize the continued existence of listed species or result in destruction or adverse modification of critical habitat. Section 10(a)(1)(B) allows non-federal entities to obtain permits for incidental taking of threatened or endangered species through consultation with USFWS or NOAA Fisheries.

Critical habitat is defined in Section 3(5)(A) of the FESA as "(i) the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the FESA, on which are found those physical or biological features (I) essential to the conservation of the species and (II) that may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species." Section 3(3) of the FESA defines "conservation" as "to use and the use of all methods and procedures which are necessary to bring an endangered species or threatened species to the point at which the measures provided pursuant to the FESA are no longer necessary" (i.e., the species is recovered and removed from the list of endangered and threatened species). The designation of critical habitat directly affects only federal agencies, by prohibiting actions they fund, authorize, or carry out from destroying or adversely modifying critical habitat. Individuals, businesses, and other non-federal entities are not affected by the designation of critical habitat so long as their actions do not require a permit, a license, funding, or other support from a federal agency.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act of 1940 imposes criminal and civil penalties for persons in the U.S. or within U.S. jurisdiction lands who take, possess, sell, purchase, barter, offer to sell or purchase or barter, transport, export or import a bald eagle (*Haliaeetus leucocephalus*) or

golden eagle (*Aquila chrysaetos*), alive or dead, or any part, nest, or egg of these eagles; or violates any permit or regulations issued under the Act, without the permission of the Secretary of the Interior. Bald eagles may not be taken for any purpose unless the Secretary issues a permit prior to the taking.

Federal Migratory Bird Treaty Act

Migratory birds are protected under the federal Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). The MBTA is administered by the USFWS and special permits from the agency are generally required for the take of any migratory birds.

California Endangered Species Act

Under the California Endangered Species Act (CESA), CDFG has the responsibility for maintaining a list of endangered and threatened species (California Fish and Game Code 2070). CDFG also maintains a list of "candidate species," which are species that CDFG formally notices as being under review for addition to the list of endangered or threatened species. In addition, CDFG maintains lists of "species of special concern," which serve as species "watch lists." Pursuant to the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present in the PSA and, if so, whether the proposed project would have a potentially significant impact on any of these species. In addition, CDFG encourages informal consultation on any proposed project that may affect a species that is a candidate for state listing. "Take" of protected species incidental to otherwise lawful management activities may be authorized under Section 2081 of the Fish and Game Code of California. Authorization from CDFG would be in the form of an Incidental Take Permit.

California Native Plant Protection Act

The California Native Plant Protection Act (California Fish and Game Code Sections 1900-1913) prohibits the taking, possessing, or sale within the state of any plants with a state designation of rare, threatened, or endangered, as defined by CDFG. An exception to this prohibition allows landowners, under specified circumstances, to take listed plant species, provided that the owners first notify CDFG and give the agency at least 10 days to retrieve (and presumably replant) the plants before they are plowed under or otherwise destroyed. Fish and Game Code Section 1913 exempts from the "take" prohibition "the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right of way".

California Fish and Game Code

Raptor species (birds of prey) are protected for "take" according to California Fish and Game Code (Section 3503.5, 1992). Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes 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." Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by CDFG.

California statutes also accord "fully protected" status to a number of specifically identified birds, mammals, reptiles, amphibians, and fish. These species cannot be "taken," even with an

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incidental take permit (California Fish and Game Code, Sections 3505, 3511, 4700, 5050, and 5515).

CEQA Guidelines Section 15380

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines Section 15380(d) provides that a species not listed on the federal or state list of protected species may still be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definition in the FESA and the section of the California Fish and Game Code dealing with rare or endangered plants and animals. Section 15380(d) allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the USFWS or CDFG (e.g., candidate species, species of concern) would occur. Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

REGULATION OF ACTIVITIES IN WATERS OF THE U.S. AND WETLANDS

Federal Regulation

The United States Army Corps of Engineers (USACE) has primary federal responsibility for administering regulations that concern "Waters of the U.S.", including jurisdictional wetlands. The USACE acts under two statutory authorities, the Rivers and Harbors Act (Sections 9 and 10) which governs specified activities in "navigable waters of the U.S.", and the Clean Water Act (Section 404), which governs specified activities in "other waters of the U.S." and many wetland habitats. 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." below the ordinary high-water mark in non-tidal waters. The Environmental Protection Agency (EPA), USFWS, the National Marine Fisheries Services (NMFS), and several other agencies provide comment on USACE permit applications. On agricultural lands, the Natural Resources Conservation Service (NRCS) is the primary federal agency charged with determining the boundary of jurisdictional wetlands for implementation of the Food Securities Act, however, the USACE retains primary permitting authority.

State Regulation

The state's authority in regulating activities in "Waters of the U.S." and wetlands resides primarily with the CDFG and the State Water Resources Control Board (SWRCB). CDFG is also authorized under the California Fish and Game Code to develop mitigation measures and enter into Streambed Alteration Agreements with applicants who propose projects that would obstruct the flow of, or alter the bed, channel, or bank of a river or stream in which there is a fish or wildlife resource, including intermittent and ephemeral streams. The SWRCB, acting through the Regional Water Quality Control Board (RWQCB), must certify that a USACE permit action meets state water quality objectives. The RWQCB also regulates the discharge of dredged or fill material into drainages and wetlands that are not subject to USACE jurisdiction (e.g. isolated waters).

LOCAL

Shasta Plains Habitat Conservation Plan/Natural Community Conservation Plan

The CDFG recently obtained a grant for the Shasta Plains Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) to help fund the development of a 250-square-mile conservation area in southern-central Shasta County. Vernal pools in the Shasta plains region provide valuable habitat for a host of rare and sensitive vernal pool species, including several federally listed species. Many of the remaining vernal pools occur on privately owned lands and are vulnerable to loss and degradation. This HCP will protect the vernal pools, riparian habitat and stream corridors, and oak woodlands, while providing the development community with a streamlined permitting process. Specific tasks include developing a biological database for the conservation area, a conservation strategy, and a funding strategy; and coordinating independent scientific input and public involvement in plan development (DOI 2003). Since this HCP/NCCP has not been adopted, no further analysis of potential conflicts with the plan is necessary.

City of Anderson General Plan

The City of Anderson General Plan (City of Anderson 2007) contains various policies and implementation measures regarding preservation and protection of sensitive biological resources. General Plan policies and implementation measures relevant to biological resources within the proposed project area are summarized in **Table 4.9-4**. This table also provides an evaluation of the proposed project in relation to its consistency with the pertinent General Plan policies and implementation measures as required by State CEQA Guidelines Section 15125(d). The final authority for interpretation of these policy statements, and determination of the project’s consistency, ultimately rests with the City Council.

**TABLE 4.9-4
SPECIFIC PLAN CONSISTENCY WITH CITY OF ANDERSON GENERAL PLAN POLICIES
BIOLOGICAL RESOURCES**

City of Anderson General Plan Policies	Consistency with General Plan	Analysis
Retain the riparian vegetation along the main water-ways in the City. (BRP-1)	Yes, as mitigated	The proposed project minimizes impacts to waterways by concentrating development along ridgetops. However, limited development is proposed adjacent to Anderson and Olinda Creeks. Mitigation measures proposed in the EIR would reduce impacts to riparian habitat to a less than significant level.
Protect areas that have significant wildlife habitat resources or, if impacts cannot be avoided, require appropriate mitigation. (BRP-2)	Yes, as mitigated	The proposed project includes policies to protect sensitive wildlife habitat; however, the project would still include significant impacts to wildlife habitat. Mitigation measures proposed in the EIR would reduce these impacts.
Preserve trees where possible and mitigate for the loss of trees to be removed. (BRP-7)	Yes, as mitigated	The proposed project includes a tree mitigation plan that would partially mitigate for impacts to trees. Mitigation measures proposed in the EIR would further reduce impacts from the loss of trees.

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Minimize impacts to special-status species and sensitive habitats to the maximum extent feasible. (BRP-8)	Yes, as mitigated	Although the proposed project includes policies to avoid or mitigate impacts to sensitive wildlife species and habitats, additional mitigation measures would further reduce impacts to special-status species and sensitive habitats.
Treat areas adjoining Anderson Creek, Spring Gulch, Tormey Drain, Sacramento Gulch, Olinda Creek and the Sacramento River as high value resource areas providing an amenity to the City where feasible. (BRI-1)	Yes, as mitigated	Please refer to the analysis of General Plan Policy BRP-1 above.
Develop and implement a grading ordinance to address issues of site grading, mass grading, tree removal and storm water run-off. (BRI-4)	Yes	The proposed project would be consistent with the City's grading ordinance.
Develop storm drain facilities which enhance biological resources. (BRI-6)	Yes	The proposed Specific Plan includes a policy to design stormwater outfalls with cobble catch basins to dissipate flows, minimize erosion and to allow passive treatment of water.
Tree removal shall be compensated by the planting of street, parkland, recreational area or other urban area trees or other appropriate means of conservation. (BRI-7)	Yes	The proposed project includes a tree mitigation plan that would be consistent with this policy.
Provide an educational program including signs and maps to inform the public of biological resources within the City. (BRI-8)	Yes	The proposed project includes installation of educational/interpretive signage at the major entrances of preserved areas.
If, during CEQA review of a proposed project, the Initial Study indicates that a project has the potential for significant impacts on biological resources, the City may require a biological resource assessment to evaluate the impacts and recommend appropriate mitigation measures to avoid or lessen impacts to those resources. (BRI-10)	Yes	The data from the Biological Resources Assessments and Wetland Delineations (Galloway Consulting 2003a/b; 2005a/b) were used to evaluate the impacts of proposed project.
The City will develop guidelines for protection of special-status species and sensitive habitats that exist in the vicinity. The guidelines will recommend species-specific and habitat-specific mitigation measures that can be used by project developers, and by the City in approving particular projects, to avoid or lessen the impacts to biological resources. (BRI-11)	Yes	The proposed project will be consistent with the City's guidelines for protection of special-status species and sensitive habitats.
Establish buffers from adjoining land use to protect natural open space resources. (OSP-2)	Yes	The proposed project establishes buffers around sensitive areas.
Encourage preservation and enhancement of the watershed, natural waterways, and areas important for the maintenance of natural vegetation and wildlife populations. (OSP-3)	Yes	The proposed project includes plans to restore waterways within the PSA.
Where feasible and desirable, major open space components shall be combined and linked to form a visual and physical system in the City. (OSP-4)	Yes	The proposed project strives to link open space by placing developments on ridgetops while preserving the steep ravines and drainages.

Adopt land use controls that prevent incompatible uses for parcels adjacent to existing open space resources. (OSI-1)	Yes	The proposed project strives to buffer sensitive areas.
Pursue opportunities for additional open space land in the form of parkland dedication, and public open space easements, leaseholds, land donations/dedications, and gift annuities. (OSI-2)	Yes	The proposed project would designate 1,218 acres of land as open space (referred to as common area on the Land Use Diagram).
Participate with regional, State and Federal entities and agencies to establish open space areas that include wildlife habitat and provide passive recreational opportunities. (OSI-3)	Yes	The proposed project would consult with regional, State and Federal agencies to establish their open space habitat and conservation easements.
All Open Space Preserve areas that are specifically created to set lands aside for the continued protection of wetlands and seasonal drainages will be placed in a conservation easement that will restrict or prevent future development of these areas. (OSI-4)	Yes	The proposed project includes a policy to preserve in perpetuity avoided wetlands and seasonal drainages that are considered jurisdictional and regulated by USACE.

The Vineyards at Anderson Specific Plan

For a project level evaluation of Phase 2 of the Vineyards at Anderson project, concerning how Phase 2 will comply with the Specific Plan, it is necessary to assume at this time that the proposed goals and policies of the Specific Plan will be adopted. The proposed Specific Plan contains various goals and policies regarding biological resources. Specific Plan policies relevant to biological resources within Phase 2 of the project area, in the context of CEQA, are summarized in **Table 4.9-5**. This table provides an evaluation of Phase 2 relative to its consistency with the pertinent Specific Plan policies as required by State CEQA Guidelines Section 15125(d). The final authority for interpretation of these policy statements and determination of the project’s consistency ultimately rests with the City of Anderson City Council.

**TABLE 4.9-5
PROJECT LEVEL (PHASE 2) CONSISTENCY WITH VINEYARDS AT ANDERSON SPECIFIC PLAN POLICIES
BIOLOGICAL RESOURCES**

Specific Plan Policies	Consistency with Specific Plan	Analysis
Impacts to sensitive wildlife species and habitats that occur in the Specific Plan Area shall be avoided whenever possible. (Policy 7.2.1)	Yes, as mitigated	Additional mitigation measures are included as a part of the EIR impact analysis to further reduce impacts to special-status wildlife species and habitats.
Mitigation measures shall be implemented as necessary to compensate for unavoidable impacts to special status species and their habitats. (Policy 7.2.2)	Yes	Phase 2 of the project, with the mitigation measures proposed in this EIR, is consistent with this policy. Approval of Phase 2 would incorporate a biological resources management and monitoring program that will include provisions for preconstruction surveys for special-status species..
Sensitive habitat areas should be designated as permanent open space to preserve the natural resources of the area. (Policy 7.2.3)	Yes, as mitigated	The project development plan has considered the location of habitat. Additional mitigation measures are included as a part of this EIR impact analysis to be consistent with this policy.

4.9 BIOLOGICAL RESOURCES

Specific Plan Policies	Consistency with Specific Plan	Analysis
Sensitive habitat areas should be restored through the repairing of headcuts within the Vineyards Open Space Preserve and revegetating and channelizing Anderson Creek to its historic condition. (Policy 7.2.4)	Yes	Phase 2, as proposed, would not interfere with this policy.
Development should be designated in a manner that will minimize adverse impacts to native trees and habitats, and should be concentrated on ridge tops to avoid sensitive areas such as ravines, as indicated by Figure 3-1: Land Use Plan. (Policy 7.2.5)	Yes	Although the EIR recognizes that the proposed project, including Phase 2, will have a significant and unavoidable impact on blue oak habitat, Phase 2 has been designed to concentrate development on ridgetops and avoid ravines in order to minimize impacts to habitat.
Development and agricultural activities within the Specific Plan area will occur largely on ridge tops and open areas consisting of non-native grasslands reducing impacts to wildlife corridors and allowing connectivity throughout the Specific Plan area. (Policy 7.2.6)	Yes	The tentative map for Phase 2 has concentrated development on ridgetops and open areas to reduce impacts to wildlife corridors.
Where open space is bisected by roadways, signage will be provided to inform travelers of any known migration route. (Policy 7.2.7)	Yes	Approval of Phase 2 would incorporate a biological resources management and monitoring program that will include this provision.
Blue Oak Woodlands provide a substantially diverse habitat and should be preserved to the extent feasible. (Policy 7.2.9)	Yes, as mitigated	Oak woodlands located outside of development areas will be preserved. Additional mitigation measures regarding Oak Woodlands are included as a part of this impact analysis to be consistent with this policy.
Wildlife corridors and connections to sensitive habitat areas as provided for in the Specific Plan design should be preserved to the greatest extent possible to permit the free movement of wildlife through open space areas. (Policy 7.2.8)	Yes, as mitigated	Phase 2 would be consistent with the Specific Plan concerning protection of any identified wildlife corridors.
Healthy trees located outside of grading and construction zones shall be preserved whenever feasible and where preservation does not conflict with the vegetation and fire reduction programs. Only those trees necessary for construction of improvements, or trees that pose potential fire or other hazards or spread of pests or disease, shall be removed. (Policy 7.2.10)	Yes, as mitigated	The EIR includes mitigation measures to protect trees that will be retained. Approval of Phase 2 would incorporate a biological resources management and monitoring program that will include management provisions for remaining blue oak.
Where feasible, healthy native trees at the edge or within development areas should be protected during construction, as described below. Exceptions may be made to comply with the requirements of vegetation management and fire reduction programs. (Policy 7.2.11)	Yes, as mitigated	See analysis of Specific Plan Policy 7.2.10 above.
Tree removal resulting from grading and site improvements shall be compensated by the planting of street, parkland, recreational area, and other urban area trees. Replacement trees	Yes, as mitigated	The EIR includes mitigation measures to protect trees that will be retained. Approval of Phase 2 would incorporate a biological resources management and monitoring program that will

4.9 BIOLOGICAL RESOURCES

Specific Plan Policies	Consistency with Specific Plan	Analysis
<p>may consist of native or non-native species.</p> <p>Invasive species shall be prohibited. Trees planted in or adjacent to non-urbanized areas, such as the common area, should be selected to contribute to a healthy oak woodland habitat. (Policy 7.2.12)</p>		<p>include management provisions for remaining blue oak and measures concerning compensation of trees to be removed.</p>
<p>No replacement tree shall be planted within 15 feet of the driplines of oak trees or landmark sized trees that are retained on site. (Policy 7.2.13)</p>	Yes, as mitigated	<p>Approval of Phase 2 would incorporate a biological resources management and monitoring program that will include management provisions to protect oak trees that will be retained.</p>
<p>A circle with a radius measurement from the trunk of the tree to the tip of its longest limb shall be measured and constitute the dripline protection area of each tree. The area beneath the dripline is a critical portion of the root zone and defines the minimum protected area of each tree. Removing limbs that make up the dripline does not change the protected area. (Policy 7.2.14)</p>	Yes, as mitigated	<p>See analysis of Specific Plan Policy 7.2.13 above.</p>
<p>Any protected trees on the site that require pruning to enable construction, shall be pruned by a certified arborist prior to the start of construction work. All pruning shall be in accordance with the American National Standards Institute (ANSI) A300 pruning standards and the International Society of Arboriculture (ISA) "Tree Pruning Guidelines." (Policy 7.2.15)</p>	Yes, as mitigated	<p>See analysis of Specific Plan Policy 7.2.13 above.</p>
<p>Temporary protective fencing shall be installed at least six inches outside the driplines of the trees prior to the start of construction work, in order to avoid damage to the trees and their root systems. (Policy 7.2.16)</p>	Yes, as mitigated	<p>See analysis of Specific Plan Policy 7.2.13 above.</p>
<p>No signs, ropes, cables (except those installed by a certified arborist to provide limb support) or other items shall be attached to protected trees. Small metallic numbering tags for the purpose of preparing tree reports are allowed. (Policy 7.2.17)</p>	Yes, as mitigated	<p>See analysis of Specific Plan Policy 7.2.13 above.</p>
<p>No vehicles, construction equipment, mobile home/office, supplies, materials or facilities shall be driven, parked, stockpiled or located within the driplines of protected trees. (Policy 7.2.18)</p>	Yes, as mitigated	<p>See analysis of Specific Plan Policy 7.2.13 above.</p>
<p>Drainage patterns on the site shall not be modified so that water collects or stands within, or is diverted across, the dripline of any protected tree. Diversion is permitted if a qualified biologist indicates that damage will not occur. (Policy 7.2.19)</p>	Yes, as mitigated	<p>See analysis of Specific Plan Policy 7.2.13 above.</p>

4.9 BIOLOGICAL RESOURCES

Specific Plan Policies	Consistency with Specific Plan	Analysis
No substantial grading (grade cuts or fills) or trenching shall be allowed within the driplines of protected trees. If the engineer determines that a utility line cannot feasibly be routed to avoid the dripline protection zone, then the line shall be bored at a minimum four-foot depth through the entire protection zone area unless a satisfactory alternative that protects the tree can be identified. This requirement shall be included on the improvement plans. (Policy 7.2.20)	Yes, as mitigated	See analysis of Specific Plan Policy 7.2.13 above.
Impacts to wetlands and seasonal drainages will be avoided to the greatest extent practicable. (Policy 7.2.22)	Yes	Planning for Phase 2 has attempted to avoid impacts to wetlands and seasonal drainages.
All avoided wetlands and seasonal drainages that are considered jurisdictional and regulated by the USACE under the Clean Water Act will be placed in an Open Space Preserve. (Policy 7.2.23)	Yes, as mitigated	The Open Space Preserve has been planned to include wetlands and seasonal drainages.
All Open Space Preserves that are specifically created to set lands aside for the continued protection of wetlands and seasonal drainages will be placed in a conservation easement that will restrict or prevent future development of these areas. (Policy 7.2.24)	Yes	Phase 2 includes plans to place seasonal drainages and wetlands in a conservation easement (i.e., The Vineyards Open Space Preserve). Approval of Phase 2 would incorporate a biological resources management and monitoring program that will include additional management provisions to protect wetlands and seasonal drainages.
Buffers consisting of native or existing vegetation will be placed and maintained around all preserved wetlands and seasonal drainages. Buffer widths will vary but at a minimum will consist of 25 feet from top of bank from all drainages and 50 feet from the ordinary high water mark on all wetlands. (Policy 7.2.27)	Yes, as mitigated	Approval of Phase 2 would incorporate a biological resources management and monitoring program that will include management provisions to protect wetlands and seasonal drainages.
Many existing wetlands within the Specific Plan area are man-made by damming intermittent drainages or creating ponds in uplands. Some of these wetlands are highly eroded, are experiencing head-cut formation, or are degraded by past cattle grazing activities. When feasible, these wetlands and seasonal drainages will be restored and efforts will be made to prevent head cut formation. (Policy 7.2.28)	Yes	See analysis of Specific Plan Policy 7.2.27 above.
Outfalls may daylight into Open Space Preserve areas containing preserved wetlands. Outfalls will be designed with cobble catch basins to dissipate flows, minimize erosion, and to allow some passive treatment of water before it enters the preserved wetlands and seasonal drainages. (Policy 7.2.29)	Yes	See analysis of Specific Plan Policy 7.2.27 above.

Specific Plan Policies	Consistency with Specific Plan	Analysis
Install educational/ interpretive signage which informs residents of the importance of the preservation of wetlands and hydrologic systems at major entrances to preserved areas. (Policy 7.2.30)	Yes	See analysis of Specific Plan Policy 7.2.27 above.
The Anderson Creek Corridor and the lands included in the setback area shall be incorporated into the existing Anderson Creek Greenway and restored and managed by the developer within the confines of the Vineyards Open Space Management Plan. (Policy 7.2.32)	N/A	The Anderson Creek Corridor and setback area are located outside of Phase 2.
Landscaping plans for any recreation improvements proposed in or within 100 feet of the centerline of Anderson Creek shall include appropriate guidelines to prevent contamination of Anderson Creek and its associated riparian habitat by pesticide, herbicides, fungicides, and fertilizers. Landscaping should include appropriate native plant species and should not include plantings of nonnative, invasive plant species. (Policy 7.2.33)	N/A	See analysis of Specific Plan Policy 7.2.32 above.
Future mitigation in the Anderson Creek corridor shall include revegetation with native plant species to enhance the appearance and improve the habitat value of the corridor. Re-vegetation plans shall be subject to review and approval by the CDFG. (Policy 7.2.34)	N/A	See analysis of Specific Plan Policy 7.2.32 above.
Preconstruction surveys for silky cryptantha shall be conducted for improvements or development proposed in or adjacent to potential habitat prior to development during the flowering period (generally April through May). If individual plants or populations are found within survey area, at the discretion of the biologist, clearing and construction within 50 feet shall be prohibited. (Policy 7.2.36)	Yes, as mitigated	Approval of Phase 2 would incorporate a biological resources management and monitoring program that will include guidelines and management provisions for preconstruction surveys, including surveys for silky cryptantha, and protective measures will be specified based on the results of the surveys.

4.9.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the following standards of significance recognized by the City of Anderson for this project pursuant to the State CEQA Guidelines, including CEQA Guidelines Appendix G and Section 15065(a):

- a) 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 CDFG or USFWS.

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- b) 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 USFWS.
- c) 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 wetlands, etc.), through direct removal, filling, hydrological interruption or other means.
- d) 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.
- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.
- g) Substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number or restrict the range of an endangered, rare or threatened species.

METHODOLOGY

The impact assessment was based on the EIR project description (Section 3.0), information described in the existing setting, and the standards of significance described above. The impact assessment addresses the Specific Plan on a programmatic level and the impacts of the Phase 2 component of the project at a project level. Phase 2 consists of a tentative subdivision map to create 722 single-family residential lots, a 3.3-acre private recreation center, a 9.2-acre public park, approximately two acres of commercial development, a one-acre fire station site, approximately eleven acres of vineyards, approximately 2.75 miles of pedestrian trail, and associated roadways and infrastructure on approximately 293 acres.

For the program level analysis, because the exact nature of all development associated with the Specific Plan is not known at this time, a conservative approach was taken and it was generally assumed that all natural resources located within the development footprint for each phase of the project would be removed, or otherwise modified, by project activities. Although it is likely that some level of natural resources would be retained within the development footprints of each phase of the project, the location and extent of these resources cannot be determined. Therefore, this more conservative approach was taken to ensure that the extent and potential significance of impacts are not underestimated. Note that several trail systems are proposed within the common areas of the project. However, the exact location of these trails is not yet known and could not be specifically addressed in this impact analysis.

Following are additional factors concerning the analysis methodology that were considered for evaluation of impacts to biological resources.

Special-Status Species Assessment

A special-status species was determined to have the potential to occur in the PSA if its documented geographic range from the literature and database search includes the project vicinity and if suitable habitat for the species was identified within or near the PSA. The CDFG's California Natural Diversity Database (CNDDB) was queried for a list of special-status species with

the potential to occur, or known to occur, within the PSA or vicinity (CDFG 2007a). The database search was performed for special-status species within the *Cottonwood, California* USGS 7.5-minute quadrangle and the surrounding quadrangles (Redding, Enterprise, Palo Cedro, Olinda, Balls Ferry, Mitchell Gulch, Hooker, and Bend). Locations of special-status species occurrences as recorded in CNDDDB within a one-mile radius of the PSA are shown in **Figure 4.9.3**.

The CNPS inventory was also searched for rare or endangered plants that may occur within the PSA (CNPS 2007). This query was performed for CNPS List 1A, List 1B, and List 2 special-status plants occurring in the *Cottonwood, California* USGS 7.5-minute quadrangle and the surrounding quadrangles listed above. List 1A species are presumed extinct in California. List 1B species are considered rare or endangered in California and elsewhere. List 2 species are considered rare or endangered in California, but are more common elsewhere.

In addition, the USFWS list for the USGS 7.5 minute quadrangles listed above was consulted for federally-listed or candidate plant and animal species that could potentially be affected by the proposed project (USFWS 2007). An electronic request was submitted online to the USFWS for a list of federal special-status species potentially occurring in the USGS 7.5 minute quadrangles listed above.

Appendix 4.9-1 includes the results of the CNDDDB, CNPS, and USFWS queries for special-status species that have the potential to occur within the PSA and vicinity.

Sensitive Natural Communities

Gallaway Consulting consulted the CNDDDB to identify sensitive natural communities occurring within a 10-mile radius of the PSA. The California Office of Planning and Research and the Office of Permit Assistance (1986) define project effects that substantially diminish habitat for fish, wildlife, or plants, or that disrupt or divide the physical arrangement of an established community as significant impacts under CEQA. This definition applies to certain natural communities because of their scarcity and ecological values and because the remaining occurrences are vulnerable to elimination. For this analysis, the term "sensitive natural community" includes those communities that, if eliminated or substantially degraded, would sustain a significant adverse impact as defined under CEQA. Sensitive natural communities are important ecologically because their degradation and destruction could threaten populations of dependent plant and wildlife species and significantly reduce the regional distribution and viability of the community. If the number and extent of sensitive natural communities continue to diminish, the status of rare, threatened, or endangered species could become more precarious, and populations of common species (i.e., not special-status species) could become less viable. Loss of sensitive natural communities can also eliminate or reduce important ecosystem functions, such as water filtration by wetlands and bank stabilization by riparian woodlands for example.

Natural Heritage Specimens

Natural heritage specimens include individual native tree specimens from sensitive natural communities that are greater than 24 inches diameter at breast height (dbh). As the larger, more mature members of their communities they provide important structural habitat characteristics and account for the greatest proportion of community propagation—both important to ecological sustainability.

4.9 BIOLOGICAL RESOURCES

Critical Habitat

When the USFWS lists a species as threatened or endangered under the Federal Endangered Species Act (ESA), areas of habitat considered essential to its conservation and survival may be designated as critical habitat. These areas may require special consideration and/or protection due to their ecological importance. Although critical habitat may be designated on state or private lands, activities on them are not restricted unless there is federal involvement or direct impacts to listed species are expected. In September 2005, Gallaway Consulting determined that USFWS-designated critical habitat does not occur within the PSA (Gallaway Consulting 2003a; 2005a). In July 2007, potential critical habitat designations within the PSA were checked again using the CNDDDB Quickviewer online database (CDFG 2007b). No critical habitat designations are located within the PSA.

Waters of the United States, Including Wetlands

The USACE and the EPA regulate the discharge of dredged or fill material into jurisdictional waters of the United States, under Section 404 of the Clean Water Act. The term "Waters of the United States" is an encompassing term that includes "wetlands" and "Other Waters." Wetlands have been defined for regulatory purposes as follows: "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. Wetlands generally include swamps, marshes, bogs, and similar areas." Other Waters of the U.S. are seasonal or perennial water bodies, including lakes, stream channels, drainages, ponds, and other surface water features, that exhibit an ordinary high-water mark but lack positive indicators for one or more of the three wetland parameters (i.e., hydrophytic vegetation, hydric soil, and wetland hydrology) (33 CFR 328.4). A wetland delineation was conducted by Gallaway Consulting in July 2003 and October 2005 (**Appendix 4.9-3**) in accordance with the methodology outlined in the routine on-site method in the USACE Wetland Delineation Manual (USACE 1987).

Field Surveys

The field surveys were conducted over an extended period of time in August 2003, December 2004, and January through July 2005 by Steven Woods, Sean Ziniker, and Jody Gallaway, biologists and Shirley Innecken, botanist (Gallaway Consulting 2005a/b). The biological and botanical resource surveys were conducted to determine the presence of sensitive biological resources within the PSA and to determine if these resources would be impacted by the proposed project.

Protocol-level surveys to determine presence/absence of listed vernal pool invertebrates was initiated in November 2005. One wet season (Gallaway 2006) and one dry season (Helm 2007) survey have been completed. The results of these studies concluded that federally-listed branchiopod species do not occur within the seasonal wetland and vernal pool habitat within the PSA.

Habitat Characterization

By incorporating collected field data and interpreting aerial photos, Gallaway Consulting mapped the extent of all habitat types and other biological resources including Waters of the U.S. that may be impacted by the proposed project using a classification system based on Mayer and Laudenslayer (1988) (**Appendix 4.9-4; Figure 4.9-2**). Mapping was performed to

identify the habitats potentially impacted by future development and to more accurately assess impact significance level, mitigation effectiveness, and habitat value.

PROGRAM LEVEL (PROJECT BUILDOUT) IMPACTS AND MITIGATION MEASURES

Impacts to Special-Status Wildlife Species

As noted earlier, a number of surveys were conducted in preparation of this EIR for special-status wildlife species. In the following impacts discussion, the mitigation measures include requirements for additional surveys that must be completed prior to construction, vegetation removal, and/or ground disturbance within habitats capable of supporting special-status wildlife species. In some instances there are seasons or months (e.g., outside of the nesting period) during which construction activity can occur and for which no preconstruction survey is required. **Table 4.9-6, Survey Timeframe for Special-Status Wildlife Species**, illustrates when surveys are required and when construction activities can proceed without a preconstruction survey.

**TABLE 4.9-6
SURVEY TIMEFRAME FOR SPECIAL-STATUS WILDLIFE SPECIES**

Special-Status Wildlife	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Migratory birds		X	X	X	X	X	X	X	X			
Raptors		X	X	X	X	X	X	X	X			
Burrowing Owls	X	X	X	X	X	X	X	X	X	X	X	X
California red-legged frogs	X	X	X	X	X	X	X	X	X	X	X	X
Northwestern pond turtles	X	X	X	X	X	X	X	X	X	X	X	X
Bats	X	X	X	X	X	X	X	X	X	X	X	X

Notes: An X in the cell signifies the months that surveys would be required for specific species prior to ground disturbance or construction activities in areas that provide suitable habitat. No X means that construction activities can proceed without surveys.

Impact 4.9.1 Implementation of the proposed project could result in direct and indirect loss of habitat and individuals of endangered, threatened, rare, proposed, and candidate status as well as California Fully Protected species. This impact is considered **potentially significant**.

Direct Impacts of the Proposed Specific Plan

As discussed above, suitable habitat for wildlife species listed as endangered, threatened, rare, proposed, candidate, or listed as “fully protected” in the Fish and Game Code of California (Section 3511, 4700, 5050, 5515), collectively referred to in this EIR as “listed species” is found within the PSA. Development under the proposed Specific Plan would directly impact such habitat. Most direct impacts would occur from development of large areas of undeveloped blue oak woodland, and fresh emergent and seasonal wetlands and other sensitive habitats within the PSA. The proposed project would also impinge on the many drainageways and riparian corridors within the PSA.

4.9 BIOLOGICAL RESOURCES

Development under the proposed Specific Plan Land Use Map would result in the potential loss of, or direct impact to, approximately 1,008 acres of various habitat types that serve as potential habitat for listed species (Table 4.9-7). As the final design of future development is not currently known, the acreages listed in Table 4.9-7, below, represent the estimated maximum area that could be directly affected by development represented on the Land Use Diagram, including infrastructure. Figure 4.9-4 shows the impacts the proposed project would have on natural communities within the PSA. Actual direct impacts to these cover types may be less, depending on the ultimate design of individual developments as determined through application of proposed Specific Plan policies on a project-specific basis and project-specific compliance with state and federal agency requirements. As discussed in detail in Section 1.0, this EIR is a programmatic analysis of the broad environmental effects of the overall proposed Specific Plan with a project level analysis of Phase 2. Goals and policies contained within the proposed Specific Plan would apply to all future improvement plans within the PSA. Future proposed projects that have the potential to cause a direct or reasonably foreseeable indirect physical change in the environment will undergo additional, project-specific CEQA-review, as required by statute. Those future projects will also be subject to the federal and state Endangered Species Acts, as appropriate.

**TABLE 4.9-7
LISTED SPECIAL-STATUS WILDLIFE SPECIES CONSIDERED IN THE IMPACT ANALYSIS ORGANIZED BY HABITAT TYPE**

Community/ Habitat Type	Special-Status Wildlife Species Potentially Occurring within the PSA	Acreage Impacted by Proposed Development*	Total Acres Present in the PSA
Annual Grassland	White-tailed kite (foraging) American peregrine falcon (foraging) Bald eagle (foraging)	77.14	91.83
Blue Oak Woodland	White-tailed kite American peregrine falcon Bald eagle	918.16	2,121.06
Potential Jurisdictional Waters, Including Wetlands			
Seasonal Wetland	Bald eagle (foraging)	1.90	8.01
Fresh Emergent Wetland	Bald eagle (foraging)	0.56	3.84
Pond	None	0.45	1.87
Vernal Pool	None	0.38	0.39
Vernal Swale	None	0.20	0.21
Ephemeral Drainages	California red-legged frog	0.81	2.90
Intermittent Drainages	California red-legged frog	8.53	14.09
Riparian	California red-legged frog White-tailed kite Bald eagle Bank swallow	0.10	0.2
Culverts	None	0.01	0.01
<i>Total Wetlands and Other Waters</i>		12.94	31.52
TOTAL within the PSA		1,008.24	2,244.41

*The calculations include all land use designations except for the common areas since these areas would presumably have no impact on these habitat types.

Indirect Impacts of the Proposed Specific Plan

Suitable habitat for listed wildlife species exists within the PSA and could be indirectly impacted by development under the proposed Specific Plan (as identified in the Land Use Diagram). Listed species include those species identified by the USFWS or the CDFG as endangered, threatened, rare, proposed, or candidate (**Table 4.9-7**).

Just as direct impacts would occur to habitat in which listed species are found, indirect impacts to listed species could occur as well. Indirect impacts occur for a number of reasons, though primarily through increased human/wildlife interactions, habitat fragmentation, encroachment by exotic weeds, and area-wide changes in surface water flows due to development of previously undeveloped areas.

Increased Human/Wildlife Interactions

The major circulation features identified in the Specific Plan would be heavily traveled with vehicular traffic and pedestrians, increasing the amount and severity of indirect impacts to wildlife and habitat in the PSA. Additionally, development of previously undeveloped land for residential uses can expose species to impacts from feral and unconfined pets.

Habitat Fragmentation

Much of the habitat within the PSA used by listed species is currently interconnected with large areas of undeveloped land that has a minor impact on plant and wildlife species in the PSA. However, wide-scale development of the PSA consistent with the proposed Specific Plan would result in small pockets of conserved habitat that are no longer connected, resulting in indirect impacts to species diversity and movement within and through the PSA.

Encroachment by Exotic Weeds

Generally, landscaping installed as part of development in the region has relied heavily on exotic, non-native plant species for decoration. However, some of these species can spread to natural areas, causing native plant life to be replaced by exotic species. Construction activities, grading, and other ground or vegetation-clearing disturbances can eliminate the native plant population and allow invasive, non-native species to become established. As native plants are replaced by exotic species, indirect impacts to the habitat of listed species would occur such as modification or degradation of habitat.

Changes in Surface Water Flows

As development occurs, surface water flows normally increase due to an increase in impermeable surfaces through, for example, the placement of building materials and paving over permeable surfaces. In addition, surface water flows are modified due to changes in surface flow by point source stormwater infrastructure installed in order to handle greater flows from the increasing impermeable surfaces as well as from the introduction of drainage flows during seasons when waterways and wetland features are typically dry (commonly referred to

as “summer nuisance flows”). Some habitat types that contain habitat for listed species can be indirectly impacted by such changes. For example, seasonal wetland communities survive along a rigid set of soil, water, and climatic conditions. Alteration of current inundation and desiccation regimes due to altered hydrology could substantially impact the characteristics of vernal pool, fresh emergent and seasonal wetland habitat, resulting in loss or degradation of wetland habitats in the PSA.

Mitigation Measures

The following mitigation measures will be implemented as conditions for each subsequent development phase of the Specific Plan, beginning with Phase 2. (Note that ‘construction’ as used in the mitigation measures refers to ground disturbance activities such as grading, paving, etc.)

MM 4.9.1a Prior to disturbance of habitats capable of supporting special-status wildlife species, protocol-level, preconstruction surveys shall be conducted by a qualified biologist to determine the presence of special-status wildlife.

Timing/Implementation: Prior to disturbance of habitats capable of supporting special-status wildlife.

Enforcement/Monitoring: USFWS; CDFG; City of Anderson Planning Department.

MM 4.9.1b If special-status wildlife species are detected during a preconstruction survey, or at any time during buildout of the project, construction activities may not proceed in the area of discovery until the project proponent reaches an appropriate level of consultation with the resource agency responsible for oversight of the species.

Timing/Implementation: Prior to and during project grading and construction.

Enforcement/Monitoring: USFWS; CDFG; City of Anderson Planning Department.

MM 4.9.1c Major vegetation removal (including the clearing of shrubs and bushes) shall be conducted outside of the bird breeding season (i.e., September 1 through January 31) whenever feasible. If vegetation removal must take place during the bird breeding season, prior to removal, the vegetation shall be surveyed by a qualified biologist to determine if nesting raptors, migratory birds or other special-status bird species are present. If active nests are detected, the biologist shall specify appropriate avoidance measures, which may include establishing buffer zones around nests until they are vacated. In addition, no trees with cavities capable of being used by cavity-nesting birds shall be removed during the bird breeding season to avoid disturbance or mortality. Reference to this requirement and the Migratory Bird Treaty Act shall be included in the construction specifications.

Timing/Implementation: As part of the subsequent development application submittals.

4.9 BIOLOGICAL RESOURCES

Enforcement/Monitoring: City of Anderson Planning Department; CDFG.

MM 4.9.1d

Major vegetation removal (including the clearing of shrubs and bushes) shall be conducted outside of the bird breeding season (i.e., September 1 through January 31) whenever feasible. If vegetation removal must take place during the bird breeding season, prior to removal, the vegetation shall be surveyed by a qualified biologist to determine if nesting raptors, migratory birds or other special-status bird species are present. If active nests are detected, the biologist shall specify appropriate avoidance measures, which may include establishing buffer zones around nests until they are vacated. In addition, no trees with cavities capable of being used by cavity-nesting birds shall be removed during the bird breeding season to avoid disturbance or mortality. Reference to this requirement and the Migratory Bird Treaty Act shall be included in the construction specifications.

Timing/Implementation: During project grading and construction.

Enforcement/Monitoring: City of Anderson Planning Department; CDFG or USFWS.

Implementation of the Specific Plan avoidance and minimization efforts and the mitigation measures listed above would substantially mitigate direct and indirect impacts to special-status wildlife species in the PSA. Additional mitigation measures for vernal pool, riparian, and blue oak woodland habitats, and mitigation measures for specific species listed below, would also reduce impacts to these species. The methodology for surveys and monitoring will be detailed in the project monitoring program. Therefore, impacts to listed wildlife species from the implementation of the Specific Plan would be considered **less than significant**.

Impacts to Special-Status Plant Species

Impact 4.9.2

Implementation of the proposed project could result in direct mortality or the loss of habitat for special-status plant species including plant species identified by the California Native Plant Society with a rating of List 1A or 1B (i.e. rare, threatened or endangered plants). This impact is considered **potentially significant**.

Special-Status plant species with the potential to occur in the PSA include: Ahart's paronchylia, Bogg's lake hedge hyssop, fox sedge, Henderson's bent grass, legenera, pink creamsacs, Red Bluff dwarf rush, silky cryptantha, and slender orcutt grass. Much of PSA is currently vacant undeveloped land. These lands have various vegetation resource values, including the potential for special-status and sensitive plant species. Fox sedge and silky cryptantha are known to occur either within the PSA or within a one-mile radius of the PSA. Direct and indirect impacts to natural vegetative communities within the PSA would occur as a result of implementation of the proposed project. Development could result in direct loss of habitat areas associated with these special-status plant species, since these habitat conditions do occur in some areas planned for development. In addition to direct impacts, indirect impacts to special-status species could occur including habitat degradation as a result of impacts to water quality (see Section 4.7, Hydrology and Water Quality, regarding water quality impacts), introduction of non-native species, and increased human presence. **Table 4.9.8** shows the special-status plant species organized by habitat type.

TABLE 4.9-8
SPECIAL-STATUS PLANT SPECIES CONSIDERED IN THE IMPACT ANALYSIS ORGANIZED BY HABITAT TYPE

Community/ Habitat Type	Special-Status Plant Species Potentially Occurring within the PSA	Acreage Impacted by Proposed Development*	Total Acres Present in the PSA
Annual Grassland	Pink creamsacs – serpentine Silky cryptantha Red Bluff dwarf rush Ahart's paronchya	77.14	91.83
Blue Oak Woodland	Pink creamsacs – serpentine Silky cryptantha Red Bluff dwarf rush Ahart's paronchya	918.16	2,121.06
Potential Jurisdictional Waters, Including Wetlands			
Seasonal Wetland	Pink creamsacs – serpentine Red Bluff dwarf rush	1.90	8.01
Fresh Emergent Wetland	Bogg's lake hedge hyssop	0.56	3.84
Pond	None	0.45	1.87
Vernal Pool	Bogg's lake hedge hyssop Red Bluff dwarf rush Legenere Slender orcutt grass Ahart's paronchya	0.38	0.39
Vernal Swale	Bogg's lake hedge hyssop Red Bluff dwarf rush Legenere Slender orcutt grass Ahart's paronchya	0.20	0.21
Ephemeral Drainages	None	0.81	2.90
Intermittent Drainages	None	8.53	14.09
Riparian	Silky cryptantha	0.10	0.20
Culverts	None	0.01	0.01
<i>Total Wetlands and Other Waters</i>		12.94	31.52
TOTAL within the PSA		1,008.24	2,244.41

*The calculations include all land use designations except for the common areas since these areas would presumably have no impact on these habitat types.

MM 4.9.2a

Prior to the disturbance of habitats capable of supporting special-status plant species, focused surveys shall be conducted by a qualified botanist to determine if special-status plant species are present. These surveys shall be scheduled to coincide with known flowering periods, and/or during periods of phenological development that are necessary to identify the plant species of concern.

Timing/Implementation: Prior to construction activities.

Enforcement/Monitoring: City of Anderson Planning Department.

4.9 BIOLOGICAL RESOURCES

MM 4.9.2b

If special-status plant species are identified during preconstruction surveys, or at any time during buildout of the project, the project shall avoid impacts to special-status plant species by implementing the following measures:

1. Special-status plant species identified within an area proposed for disturbance will be protected by installing environmentally sensitive area fencing (orange construction barrier fencing) around the special-status plant species. The environmentally sensitive area fencing shall be installed at least 20 feet from the edge of the population where feasible and remain until such time that development activities no longer pose a threat to the species. The project proponent shall also consult with the appropriate resource agency and coordinate with local experts to determine whether transplantation of the special-status plant species is feasible. If the agency concurs that transplantation is a feasible mitigation measure, the botanist shall develop and implement a transplantation plan in coordination with the appropriate resource agency.

2. Special-status plant species identified outside of an area proposed for disturbance will be protected by installing environmentally sensitive area fencing (orange construction barrier fencing) around special-status plant species. The environmentally sensitive area fencing shall be installed at least 20 feet from the edge of the population where feasible and remain until such time that construction activities adjacent to the population are complete.

3. The location of the environmentally sensitive area fencing shall be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications shall contain clear language that prohibits construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within the fenced environmentally sensitive area.

4. Where special-status plant species are located in wetlands, silt fencing shall also be installed.

Timing/Implementation: Prior to construction activities.

Enforcement/Monitoring: City of Anderson Planning Department; CDFG or USFWS.

MM 4.9.2c

The project proponent will protect against the potential introduction and spread of noxious weeds and pathogens. The project proponent will prevent the introduction of invasive, non-native plant species into sensitive plant species habitats and vegetation types by implementing recommended measures during construction, such as cleaning off-road vehicles prior to use in areas that are not proposed for development, using weed-free imported soil, restricting native vegetation removal, and requiring topsoil storage. The project proponent will also develop and implement weed management procedures to monitor and control the spread of invasive species.

Timing/Implementation: Prior to project grading and construction

Enforcement/Monitoring: City of Anderson Planning Department; CDFG.

MM 4.9.2d To compensate for the direct impacts to vernal pools, as shown in Table 4.9-1, the project proponent will either create vernal pool habitat, purchase mitigation credits at a USACE- and USFWS-approved wetland mitigation bank, or pay an in-lieu fee. Mitigation ratios will be determined during consultation with the USACE and USFWS to ensure that no net loss of habitat occurs.

Timing/Implementation: As a condition of project approval.

Enforcement/Monitoring: City of Anderson Community Development Department, Planning Division; USACE; CDFG.

Implementation of the Specific Plan avoidance and minimization policies and the mitigation measures listed above would substantially mitigate direct and indirect impacts to special-status plant species in the PSA. Additional mitigation measures for vernal pool, riparian, and blue oak woodland habitats below would also reduce impacts to these species. Therefore, implementation of the mitigation measures listed would reduce potential impacts to special-status plant species to a level that is **less than significant**.

Impacts to Migratory Birds and Raptors

Impact 4.9.3 Implementation of the proposed project would result in direct mortality or the loss of habitat for migratory birds and raptors. This impact is considered **potentially significant**.

Raptors in the orders Falconiformes (hawks, eagles, and falcons) and Strigiformes (owls) are protected in varying degrees under: California Fish and Game Code Section 3503.5; the Bald and Golden Eagle Protection Act; the Migratory Bird Treaty Act; and CEQA. The PSA currently provides suitable nesting and foraging habitat for several raptor and migratory bird species, and the proposed project has the potential to significantly impact nesting raptors and migratory birds, to include white-tailed kite, Nuttall's woodpecker and great horned owl. The average breeding window is from February 1 to August 31. This period may extend to September 15 if the area is still occupied or until the young have fledged or nesting had failed after June 15. Direct take of active nests, eggs, or birds is prohibited by CDFG and measures must be taken to minimize disturbance.

Implementation of the Specific Plan would result in disturbance, degradation, and removal of large trees for nesting and foraging habitat. Many raptors or birds of prey use habitats such as grassland and blue oak woodland for foraging. Increased conversion of open space into residential and commercial development would significantly reduce the foraging habitat for these raptor species. These actions could result in direct loss (or take) of a protected migratory birds and raptors through habitat degradation as well as increase incidental take from additional traffic, increased human presence, and degradation of the natural habitat within the PSA. This would be considered potentially significant.

Although the avoidance measures of the Specific Plan outline actions to avoid nesting raptors and migratory birds, they focus on vegetation removal and not the possible indirect impacts that may occur as a result of project construction, such as disturbance and possible nest abandonment or failure due to increased human presence, vibration and noise. However, with the added implementation of mitigation measures under Impact 4.9.1, Impacts to Special-Status Wildlife Species, potential impacts to migratory birds and raptors would be reduced to a level that is **less than significant**.

4.9 BIOLOGICAL RESOURCES

Mitigation Measures

None required.

Impacts to Species of Concern and Other Non-Listed Special-Status Species

Impact 4.9.4 Implementation of the proposed project would result in direct and indirect loss of habitat and individuals of animal and plant species of concern and other non-listed special-status species. This impact is considered **potentially significant**.

Direct Impacts of the Proposed Specific Plan

Suitable habitat exists in the PSA for unlisted but, nonetheless, special-status species. These species are designated as a species of concern by the USFWS or the CDFG, and/or are listed in the CNPS's *Inventory of Rare and Endangered Vascular Plants of California* (2001) as List 2. For a listing of species of concern and non-listed special-status species within the PSA, see **Table 4.9-8**.

Direct impacts to these species would occur for the same reasons and in the same manner as direct impacts to listed species as identified and discussed in Impact 4.9.1 above. See Impact 4.9.1, as well as **Table 4.9-9** below for information on the acreages of suitable habitat that would be affected by implementation of the proposed Specific Plan.

**TABLE 4.9-9
SPECIES OF CONCERN AND NON-LISTED SPECIES CONSIDERED IN THE IMPACT ANALYSIS ORGANIZED BY HABITAT TYPE**

Community/ Habitat Type	Special-Status Species Potentially Occurring within the PSA	Acreage Impacted by Proposed Development*	Total Acres Present within the PSA
Annual Grassland	Henderson's bent grass Cooper's hawk (foraging) Sharp-shinned hawk (foraging) Ferruginous hawk (foraging) Northern harrier (foraging) Prairie falcon (foraging) Osprey (foraging) Oak titmouse Lawrence's goldfinch California horned lark Loggerhead shrike Lewis' woodpecker Nuttall's woodpecker Short-eared owl Western burrowing owl American badger	77.14	91.83
Blue Oak Woodland	Henderson's bent grass Cooper's hawk Sharp-shinned hawk Ferruginous hawk Northern harrier Prairie falcon Osprey Oak titmouse Lawrence's goldfinch California horned lark Loggerhead shrike Lewis' woodpecker	918.16	2,121.06

4.9 BIOLOGICAL RESOURCES

Community/ Habitat Type	Special-Status Species Potentially Occurring within the PSA	Acreage Impacted by Proposed Development*	Total Acres Present within the PSA
	Nuttall's woodpecker Short-eared owl Western burrowing owl Pallid bat Western red bat Hoary bat Long-eared Myotis Yuma Myotis American badger		
Potential Jurisdictional Waters, Including Wetlands			
Seasonal Wetland	Fox sedge Northern harrier (foraging) Osprey (foraging) Tri-colored blackbird	1.90	8.01
Fresh Emergent Wetland	Fox sedge Northern harrier (foraging) Osprey (foraging) Tri-colored blackbird	0.56	3.84
Pond	Fox sedge Northwestern pond turtle Great egret Great blue heron Snowy egret Osprey (foraging)	0.45	1.87
Vernal Pool	Henderson's bent grass Western spadefoot	0.38	0.39
Vernal Swale	Henderson's bent grass Western spadefoot	0.20	0.21
Ephemeral Drainages	None	0.81	2.90
Intermittent Drainages	None	8.53	14.09
Riparian	Fox sedge Silky cryptantha Great egret Great blue heron Snowy egret Cooper's hawk Sharp-shinned hawk Osprey Yellow breasted chat Loggerhead shrike	0.10	0.20
Culverts	Special-status bat species	0.01	0.01
<i>Total Wetlands and Other Waters</i>		12.94	31.52
TOTAL within the PSA		1,008.24	2,244.41

*The calculations include all land use designations except for the common areas since these areas would presumably have no impact on these habitat types.

Non-listed Special-Status Plant Species

Impacts to non-listed special-status plant species would be similar to those impacts identified and addressed under **Impact 4.9.2**.

4.9 BIOLOGICAL RESOURCES

Northwestern Pond Turtle

Marginally suitable habitat for the northwestern pond turtle, a California species of special concern (CDFG 2004), occurs in the PSA. It is the goal of CDFG to maintain viable populations of this species as declining population levels, limited ranges, and/or continuing threats have made them increasingly vulnerable to regional extirpation. The northwestern pond turtle requires the protection of suitable nesting sites and the reduction of mortality in the younger age groups to maintain viable populations. The PSA currently provides suitable habitat and the proposed project has the potential to impact this species. Species of concern are not protected under state or federal law; however, mitigation may be required by the lead agency for CEQA. Species of concern are those that have the potential for listing under state and/or federal ESA's if negative population trends continue. By considering them early in the planning process, problems can be avoided if listing occurs before the completion of a project.

Burrowing Owl

Although no burrowing owls were observed during surveys in 2005, additional phase-specific surveys may be necessary to determine presence/absence of owls and other raptors. The proposed project is likely to span several years and, therefore, surveys may need to be conducted annually, or prior to construction activity, to confirm nesting status of all raptors.

Special-Status Bats

Bats such as the pallid bat, western red bat, hoary bat, long-eared myotis and Yuma myotis have the potential to occur within the PSA, since suitable habitat is present. Habitat for these species vary from snags, the loose bark of a tree, other vegetation, rock overhangs, manmade structures, caves, mines and culverts. Disturbance of significant roost sites can result in a significant impact on regional populations. Disturbance may include removal of vegetation surrounding or immediately adjacent to a cave or tunnel entrance, changes to airflow within the cave, or alteration of water flows and ground hydrology in the surrounding area. Changes in their habitat including increase in noise and vibrations can severely affect the survivorship of the young if construction occurs adjacent to maternity colonies during spring and summer breeding and the subsequent raising of young.

Indirect Impacts of the Specific Plan

As identified in **Table 4.9-9**, suitable habitat exists within the PSA for non-listed, special-status species. Although few of these non-listed special-status species have been documented within and adjacent to the project area, those that have been documented are shown in **Figure 4.9-3** along with the locations in which they were observed. Indirect impacts to these species would occur for similar reasons as those identified in Impact 4.9.1.

Mitigation Measures

The following mitigation measures will be implemented as conditions for each subsequent development phase of the Specific Plan, beginning with Phase 2.

MM 4.9.4a Prior to each phase of development, a preconstruction bat survey shall be performed by a wildlife biologist or other qualified professional. Appropriate measures will be specified based on the results of the surveys.

Timing/Implementation: Prior to construction and site grading activities.

Enforcement/Monitoring: City of Anderson Planning Department.

MM 4.9.4b For any development proposed within 100 feet of suitable habitat for the northwestern pond turtle, a focused survey to determine the presence of the species, including pond turtle nests, when appropriate, shall be conducted by a qualified biologist no more than 30 days prior to the onset of construction activities. If northwestern pond turtles are observed within the construction area, the biologist shall relocate the turtle to a suitable location at least 500 feet from the construction area. If nest are discovered, the eggs within the nests shall be excavated and relocated to a suitable location outside of the construction area.

Timing/Implementation: Prior to construction and site grading activities.

Enforcement/Monitoring: City of Anderson Planning Department.

MM 4.9.4c In order to avoid impacts to burrowing owls outside of the owl breeding season (September to January), a qualified biologist shall conduct a protocol-level preconstruction survey at least 30 days prior to the onset of construction activities within suitable burrowing owl habitat. If burrowing owls are observed during the preconstruction survey, measures such as flagging the burrow and avoiding disturbance, or relocating the owls, shall be implemented to ensure that no owls or active burrows are inadvertently buried during construction. All measures shall be determined by a qualified biologist in consultation with the CDFG.

Timing/Implementation Prior to construction activities.

Enforcement/Monitoring City of Anderson Planning Department; CDFG.

MM 4.9.4d Because dead trees and snags provide nesting and foraging habitat for Nuttall's woodpeckers and roosting habitat for bats, dead trees and snags shall be left standing in conservation areas (whenever possible and when not in conflict with fire hazard and public safety policies) to protect the nesting and roosting habitats of these and other species.

Timing/Implementation: Prior to and during construction activities.

Enforcement/Monitoring: City of Anderson Planning Department; CDFG.

Implementation of the avoidance and minimization provisions of the Specific Plan, mitigation measures listed above, and mitigation measures identified under Impacts 4.9.5, 4.9.6, 4.9.7, 4.9.8, and 4.9.9 would substantially mitigate direct or indirect impacts to non-listed special-status species in the PSA. Therefore, impacts to non-listed special-status species as a result of project implementation would be **less than significant**.

Impacts to Potential Jurisdictional Waters

Impact 4.9.5 Implementation of the proposed Specific Plan would result in substantial adverse impacts to, and the potential loss of, jurisdictional waters of the U.S. This impact is considered **potentially significant**.

4.9 BIOLOGICAL RESOURCES

There were a total of 31.52 acres of potential jurisdictional features delineated within the PSA by Gallaway Consulting. Implementation of the proposed project, specifically development identified in the Specific Plan Land Use Map and roadway construction, could result in direct and indirect impacts to potential jurisdictional waters within the PSA. Gallaway Consulting identified approximately 93,408 linear feet of ephemeral drainages and 148,353 linear feet of intermittent drainages within the PSA. Under the proposed Specific Plan, there would be approximately 24,677 linear feet (0.81 acre) of ephemeral drainages and 39,255 linear feet (8.53 acres) of intermittent drainages that would be directly impacted within the PSA by the proposed project.

Table 4.9-10 below contains information regarding acreages of these community/habitat types and possible direct and indirect impacts to these habitat types due to implementation of the proposed Specific Plan. **Figure 4.9-4** shows the wetlands and other waters of the U.S. that would be impacted by the proposed project. Impacts to jurisdictional features would require a 404 permit from USACE and a 401 Water Quality certification from the Regional Water Quality Control Board. Potential trenching of creeks within the PSA will also require a Streambed Alteration Agreement (CDFG Code §1603). USACE and CDFG have a “no net loss” policy for jurisdictional features; therefore, this impact would be considered potentially significant.

**TABLE 4.9-10
POTENTIAL JURISDICTIONAL FEATURES IMPACTED BY THE PROPOSED PROJECT**

Potential Jurisdictional Feature	Acreage Impacted by Proposed Development*	Total Acres Present in the PSA
Seasonal Wetland	1.90	8.01
Fresh Emergent Wetland	0.56	3.84
Pond	0.45	1.87
Vernal Pool	0.38	0.39
Vernal Swale	0.20	0.21
Ephemeral Drainages	0.81	2.90
Intermittent Drainages	8.53	14.09
Riparian	0.10	0.20
Culverts	0.01	0.01
Total Potential Jurisdictional Features	12.94	31.52

Source: Gallaway Consulting, Inc., 2005a/b

*The calculations include all land use designations except for the common areas since these areas would presumably have no impact on these habitat types.

Jurisdictional waters of the U.S. provide for a variety of functions for plants and wildlife within the PSA. Jurisdictional waters provide habitat, foraging, cover, migration and movement corridors, and water sources for both special-status and other species found in the PSA. In addition to habitat functions, jurisdictional waters provide physical conveyance of surface water flows as well as channels for the handling of large stormwater events. Large storms can produce extreme flows that cause bank cutting and sedimentation of ephemeral drainage and water bodies such as open water and streams in the PSA. Jurisdictional waters found within the PSA can slow these flows and lessen the effects of these large storm events, protecting habitat and other resources. Impacts to surface water flows are discussed further in Section 4.7, Hydrology and Water Quality.

Mitigation Measures

The following mitigation measures will be implemented as conditions for each subsequent development phase of the Specific Plan, beginning with Phase 2.

MM 4.9.5a Pending verification of the Wetland Delineation (Gallaway Consulting 2005b), and as part of each subsequent project application submittal to the City, the project applicant shall identify all potential wetland resources that occur onsite for City review. If wetland resources are proposed to be taken, the project applicant shall do the following:

1. If required, apply for a Section 404 permit from the USACE after verification of the wetland delineation by the U.S. Army Corps of Engineers (USACE). Any waters of the U.S. that would be lost or disturbed shall be replaced or rehabilitated on a "no net loss" basis in accordance with the USACE mitigation guidelines. Onsite creation of wetland habitat is preferred to offsite mitigation. Habitat restoration, rehabilitation, and/or replacement shall be at a location and by methods agreeable to the USACE.
2. Obtain a Section 401 water quality waiver of certification from the RWQCB.
3. A mitigation plan shall be implemented that includes one of the following:
 - (a) Completion of an onsite Mitigation and Monitoring Plan that includes onsite creation/preservation of the wetlands.
 - (b) Credits may be obtained at an approved mitigation bank.

The project applicant shall provide written evidence to the City from the USACE and the RWQCB that this measure has been complied with prior to recordation of final maps.

Timing/Implementation As part of subsequent tentative map applications and completed prior to final map recordation.

Enforcement/Monitoring City of Anderson Planning Department; USACE; RWQCB.

MM 4.9.5b A 1602 Streambed Alteration Agreement for removal of or disturbance to riparian habitat and Waters of the U.S. (i.e., stream, lake, or river) from CDFG would also be required for the proposed project. This agreement would include measures to minimize and restore riparian habitat. The 1602 Streambed Alteration Agreement would require the project proponent to prepare and implement a riparian vegetation mitigation and monitoring plan for disturbed riparian vegetation. If impacts to riparian and other sensitive natural communities are not avoidable, and on-site preservation is not possible, habitat compensation standards include a 2:1 (two acres of preserved habitat for every acre impacted) impact preservation ratio.

Timing/Implementation: Prior to project grading or construction.

4.9 BIOLOGICAL RESOURCES

Enforcement/Monitoring: City of Anderson Planning Department; USACE; CDFG.

MM 4.9.5c The project proponent shall obtain all necessary permits required by the Clean Water Act, and implement all conditions specified in those permits:

- Section 404 permit from USACE for fill of waters of the United States, including wetlands;
- Section 401 water quality waiver or certification from the RWQCB.

Timing/Implementation: Prior to project grading or construction.

Enforcement/Monitoring: City of Anderson Planning Department; USACE; RWQCB.

MM 4.9.5d The best available technology in Best Management Practices (BMPs) shall be employed on all work sites during construction to reduce sedimentation, erosion, water pollution, and dust to the greatest extent practicable. A Grading and Erosion Control Plan shall be prepared by the contractor and submitted to the City of Anderson Public Works and City of Anderson Planning Department for approval prior to the start of project construction, including clearing and grubbing. In areas where wetlands are within 250 feet of the project footprint, erosion control measures and construction fencing shall be emplaced, monitored for effectiveness, and maintained throughout the construction operations around all vernal pools and other wetlands.

Timing/Implementation: Prior to project grading or construction.

Enforcement/Monitoring: City of Anderson Public Works; City Planning Department.

The proposed project would result in direct and indirect impacts to jurisdictional features. Implementation of the avoidance and minimization provisions of the Specific Plan and mitigation measures listed above would substantially mitigate direct or indirect impacts. Mitigation measures outlined for Impacts 4.9.2 and 4.9.5 would further reduce potential impacts to jurisdictional features. Therefore, impacts to jurisdictional features would be **less than significant**.

Impacts to Sensitive Biological Community – Riparian Habitat

Impact 4.9.6 Implementation of the proposed project would result in disturbance, degradation, and removal of riparian habitat. This impact is considered **potentially significant**.

Implementation of the Specific Plan would result in disturbance, degradation, and removal of riparian habitat. Riparian habitat is under the jurisdiction of the CDFG under the California Fish and Game Code. CDFG regulates work that will substantially affect resources associated with rivers, streams, and lakes in California, pursuant to Fish and Game Code Sections 1600–1607. Any action from a project that substantially diverts or obstructs the natural flow or changes the bed, channel, or bank of any river or stream, or uses material from a streambed must be previously authorized by CDFG in a Streambed Alteration Agreement under Section 1602. This requirement

may, in some cases, apply to any work undertaken within the 100-year floodplain of a body of water or its tributaries, including intermittent streams. Implementation of the Specific Plan would result in direct and indirect impacts to riparian conditions along Olinda and Anderson Creeks. The Specific Plan designates the land within the riparian corridor as park, medium density residential, school, and agriculture. According to data provided by Gallaway Consulting, the proposed project would impact 0.10 acre of riparian habitat around Olinda and Anderson Creeks.

Riparian habitat supports a high diversity of wildlife species and provides shade for streams and wetlands, maintaining stream temperatures and reducing stream evaporation. Riparian obligates (i.e., species that are dependent on riparian habitat) typically require a minimum of a 100-foot setback (Robins 2006; Ledwith 1996). Buffers are not only important to the species they support, they also can reduce sediment and nutrient inputs into streams. The length of buffers is also important for stream functions. The benefits of riparian corridor buffers increase if they are adjacent to larger tracts of conserved land. Riparian habitat is considered to be a sensitive natural community under CEQA. Therefore, disturbance and loss of riparian habitat is considered a potentially significant impact.

Mitigation Measures

Development of the proposed project would result in direct and indirect impacts to riparian habitat. Implementation of the avoidance and minimization provisions of the Specific Plan would substantially mitigate direct or indirect impacts to riparian habitat in the PSA. Mitigation measures outlined in Impact 4.9.5 would also reduce potential impacts to riparian habitat. Therefore, impacts to riparian habitat would be **less than significant**.

Impacts to Sensitive Biological Communities - Vernal Pools

Impact 4.9.7 Implementation of the proposed project would result in disturbance, degradation, and removal of vernal pool habitat, including vernal swales. This impact is considered **potentially significant**.

Direct Impacts of the Proposed Specific Plan

The project has the potential to negatively impact vernal pool species including western spadefoot toad directly and indirectly. Protocol-level surveys to determine presence/absence of listed vernal pool invertebrates concluded that federally-listed branchiopod species do not occur within the seasonal wetland and vernal pool habitat within the PSA. Potential direct impacts include the destruction (i.e., filling) of 0.38 acre of vernal pools and 0.20 acre of vernal swales in the PSA. Implementation of the proposed project would eliminate all of the vernal pool/swale features within the PSA.

Indirect Impacts of the Proposed Specific Plan

Indirect effects are caused by or result from a proposed action, occur later in time, and are reasonably certain to occur. Potential indirect effects from the proposed action include changes in hydrology, increased runoff from roadways, introduction of herbicides and pesticides, as well as human intrusion.

4.9 BIOLOGICAL RESOURCES

Changes in Hydrology

In addition to the direct impacts associated with filling, development can have impacts on the hydrology of remaining habitat (e.g., pools/swales) and surrounding areas. Projects involving storm water drains, deep ripping, or the coverage of land surfaces with concrete, asphalt, or irrigated recreation parks, etc., can affect the amount and quality of water available to the perched water tables characteristic of vernal pool areas. Changes to the perched water table can lead to alterations in the rate, extent and duration of inundation (water regime) of remaining habitat. The biota of vernal pools and swales can change when the hydrologic regime is altered (Bauder 1996). Survival of aquatic organisms like fairy shrimp is directly linked to the water regime of their habitat (Zedler 1987). Therefore, development near vernal pool areas may, at times, result in the failure of local sub-populations of vernal pool organisms, including fairy shrimp and tadpole shrimp (USFWS 1996).

Increased Runoff from Roadways

Grading for roads may affect the water regime of vernal pool habitat, especially when the substrata in or near habitat areas is cut (USFWS 1996). Exposure of sub-surface layers of soil at road cuts may hasten the loss of water from adjacent habitat by mass flow through networks of cracks, layers of coarser material, mammal burrows, or old root channels. Any decrease in the duration of inundation of habitat can affect the reproductive success of vernal pool species. Other negative effects associated with roads include increased erosion and, consequently, sedimentation and conversion of vernal pool habitat, and increases in surface runoff and contamination by petroleum pollutants (USFWS 1996).

Introduction of Pesticides and Herbicides

Development often results in the introduction of pesticides or herbicides into the environment. These chemical compounds are believed to have negative effects on all of the listed vernal pool invertebrates and/or their cysts. Individuals may be killed directly or suffer reduced fitness through physiological stress or a reduction in their food base due to the presence of these chemicals (USFWS 1996).

Human Intrusion

Development frequently results in human intrusion into surrounding areas. Human intrusion is a mechanism by which trash or hazardous waste can be introduced into remaining areas. Improper disposal of waste materials can eliminate habitat, disrupt pool hydrology, or release substances into pools that are toxic or that adversely affect water chemistry. If impacts, direct or indirect, are expected to occur within 250 feet of a vernal pool, consultation with the USFWS will be required. Appropriate mitigation includes avoidance if possible; if not, the creation or preservation of "in-kind" vernal pools onsite, or offsite within a certified mitigation bank per the USFWS (1996).

Mitigation Measures

Implementation of the proposed project would result in direct and indirect impacts to vernal pool communities. Mitigation measures already outlined above for Impacts 4.9.2 and 4.9.5 would substantially reduce potential impacts to vernal pool habitat. Therefore, impacts to vernal pool habitat would be **less than significant**.

Impacts to Sensitive Biological Community - Blue Oak Woodland

Impact 4.9.8 Implementation of the proposed project would result in disturbance, degradation, and removal of blue oak woodland. This impact is considered **potentially significant**.

Direct Impacts

The CDFG has designated blue oak woodland as a “threatened” natural community in California (State Rank 3.2). The removal of blue oaks will be done at the discretion of the lead CEQA agency, which will be the City of Anderson, and will involve consultation with CDFG. The City may require a tree removal permit and CDFG may recommend mitigation for loss of blue oak woodland habitat.

The primary impact to biological resources within the PSA will occur as the result of habitat fragmentation and loss of blue oak woodlands. The exact amount of impact to blue oak woodland on an acreage basis cannot be quantified at this stage due to the conceptual nature of many phases of the Specific Plan. However, it is estimated that the proposed project would impact approximately 918 acres of blue oak woodland based on the project footprint. The project, as designed, will avoid approximately 1,203 acres of blue oak woodland.

Blue oak woodlands are documented to provide breeding habitat for more wildlife species than any other habitat in California, supporting important breeding habitat for numerous amphibian, reptile, bird, and mammal species. Several local species of concern, including Lewis woodpecker, Nuttall’s woodpecker, and oak titmouse all inhabit the PSA. All of these species are cavity nesters and rely upon snags or dead limbs in oak trees for nesting.

Direct impacts are those impacts to oak trees and woodland resulting from tree and land clearing associated with land development projects. Examples include grading, clearing, or otherwise modifying land for roads, driveways, building pads, landscaping, utility easements, fire-safe clearance and other development activities.

Indirect Impacts

Indirect impacts are those impacts to native oaks and associated resources through the on-going disturbance that results from human occupancy and use of oak woodlands. Examples include landscaping, changes in hydrology, fire clearing around structures, hiking trails, bike paths and disturbance to wildlife from people, pets and automobiles.

Mitigation Measures

In addition to the proposed avoidance measures of the Specific Plan, the following mitigation measures shall be implemented to reduce impacts to blue oak woodland. The following mitigation measures will be implemented as conditions for each subsequent development phase of the Specific Plan, beginning with Phase 2.

MM 4.9.8a Construction plans shall clearly state which blue oak trees will be protected and which trees shall be removed. As conditions of approval for development phases, the City shall require the developer to agree to a blue oak woodland mitigation and management program that will detail measures to protect and reduce impacts to blue oaks that will be retained, and to compensate for trees that will be removed.

4.9 BIOLOGICAL RESOURCES

Timing/Implementation: As part of the subsequent development application submittals and prior to and during construction activities.

Enforcement/Monitoring: City of Anderson Planning Department.

MM 4.9.8b

The project proponent shall prepare a tree mitigation and management plan that identifies specific measures, schedules, monitoring plan and standards to achieve the performance standards proposed in the avoidance measures outlined in the Specific Plan. The plan shall be prepared by a registered professional forester and/ or certified arborist, and be provided to the City for review and approval. Upon City approval, the oak woodland mitigation and management plan shall be implemented.

Timing/Implementation: Prior to grading and site development and during construction activities.

Enforcement/Monitoring: City of Anderson Planning Department.

Implementation of the proposed project would result in direct and indirect impacts to blue oak woodland habitat. Mitigation measures outlined above in conjunction with the avoidance and minimization efforts in the Specific Plan would reduce potential impacts to blue oak woodland habitat by protecting some of the existing trees as well as through replacement planting. Nevertheless, while the City believes that the resulting tree canopy area will be equal to, or greater than, that which currently exists, and will have greater diversity, it will not exclusively be a native blue oak canopy. The replacement canopy will likely be a mixture of native blue oak along with various street and landscape trees suitable to an urban forest. The City does not believe that it is feasible to successfully plant blue oak trees in an urban environment at a sufficient density and intensity as to replace the existing canopy. As such, impacts to the existing blue oak habitat are considered **significant and unavoidable**.

Loss of Habitat

Impact 4.9.9 Implementation of the proposed project through build-out would result in the loss of foraging and breeding habitat for raptors, migratory birds, and other wildlife. This impact is considered **potentially significant**.

Wetlands, riparian corridors, as well as large areas of open grassland and oak woodland, provide suitable breeding and foraging habitat for common and special-status bird species found within the PSA. The area within the PSA also provides important habitat for non-listed special-status species, as well common wildlife including variety of song birds, reptiles, and more. Additionally, some mammal species such as black bear, gray fox, coyote and black-tailed hare utilize these cover types as forage and denning habitat. Large trees in a variety of vegetation types within the PSA would also provide suitable nesting habitat for many special-status and non-listed bird species. Construction of residential units, infrastructure improvements and roadway improvements would result in the loss of large continuous areas of habitat for common wildlife species. Many of these species would be displaced due to the disruption and fragmentation of their habitat. If construction activities occur during hibernation or breeding seasons, the proposed project may result in losses to special-status and common wildlife species. Implementation of the Specific Plan, specifically development in line with the proposed Specific Plan Land Use Map, could result in the loss of this habitat and cause a significant impact to occur.

Mitigation Measures

While the incorporation of mitigation measures under Impacts 4.9.1 through 4.9.8 would mitigate impacts to various types of habitat, including blue oak woodland habitat, wetlands and other Waters of the U.S., approximately 77 acres of annual grassland habitat would be lost and/or degraded directly and indirectly through development under the Specific Plan. Wetland loss must be fully compensated under the appropriate permit(s). Therefore, the impact will be **less than significant**. Since annual grassland is common in the region, loss of approximately 77 acres of annual grassland habitat would be **less than significant**. Loss of blue oak woodland is discussed in Impact 4.9.8, which concludes that while street trees and other tree plantings may result in more of a tree canopy and greater species diversity than currently exists on the site, there will still be a **significant and unavoidable** loss due to loss of blue oak woodland.

Impacts to Migration Corridors

Impact 4.9.10 Implementation of the proposed project could interfere substantially with the movement of native resident or migratory fish or wildlife species. This impact is considered **less than significant**.

Wildlife movement corridors are routes frequently utilized by wildlife that provide shelter and sufficient food supplies to support wildlife species during migration. Movement corridors generally consist of riparian, woodlands, or forested habitats that span contiguous acres of undisturbed habitat. Wildlife movement corridors are an important element of the home ranges of resident species including black bear, mountain lion, deer, and coyote. Due to the large size of this project and the potential to adversely affect a substantial amount of wildlife habitat, especially black-tailed deer habitat, CDFG may impose measures to reduce habitat fragmentation and impacts to wildlife migration corridors. The PSA lies within the North Coast Deer Assessment Unit (DAU). Population trends within this DAU show declining numbers, mainly due to loss of habitat. Due to the importance of oak woodlands to deer populations and the potential to negatively affect oak woodlands, a net loss of deer habitat may prompt CDFG to require a mitigation and monitoring plan (pers. comm. Stowers 2005).

Development of the project area would result in disturbance to habitat areas and possibly to the movement corridors of particular species, although no specific corridors have been identified. Traffic and increased human presence would also interfere with wildlife movement through the project area.

The undisturbed natural lands within the PSA such as the riparian corridors along the Olinda and Anderson Creeks, as well as the many drainageways within the PSA, provide adequate cover and vegetation to be used as migratory corridors for common and special-status wildlife species. The character of the proposed development with substantial open space area will not totally block animal movement. The project area includes approximately 1,236.2 acres that will not be developed. This "conservation" area includes oak woodland, intermittent streams and seasonal drainages that will serve as migratory corridors for many species. There is no indication that the proposed project will create a significant blockage to any known migratory corridor. Furthermore, being located adjacent to the City of Anderson with existing residential and commercial development, as well as being near the Interstate 5 corridor, it is apparent that migration patterns through the area adjust to skirt the urbanized area. Therefore, the impact of the project to migratory corridors is considered less than significant.

4.9 BIOLOGICAL RESOURCES

PROJECT LEVEL (PHASE 2) IMPACTS AND MITIGATION MEASURES

Impacts to Special-Status Wildlife Species

Impact 4.9.11 Implementation of Phase 2 would result in direct and indirect loss of habitat and individuals of endangered, threatened, rare, proposed, and candidate status as well as California Fully Protected species. This impact is considered **potentially significant**.

Direct Impacts of Phase 2

Implementation of Phase 2 of the proposed project has the potential to directly impact listed special-status species through direct take or loss of suitable habitat. **Table 4.9.11** lists the endangered, threatened, rare, proposed, and candidate status as well as California Fully Protected species that may occur within Phase 2 of the proposed project based on the community/habitat types that occur within the Phase 2 boundaries. Development proposed under the Vesting Phase 2 Tentative Map would result in the potential loss of, or indirect impacts to, 142.60 acres of habitat types that serve as occupied or potential habitat for listed species (**Table 4.9.11**). Direct impacts to these species would occur for the same reasons and in the same manner as identified and discussed in **Impact 4.9.1** above.

TABLE 4.9.11
LISTED SPECIAL-STATUS WILDLIFE SPECIES CONSIDERED IN THE IMPACT ANALYSIS ORGANIZED BY HABITAT TYPE

Community/ Habitat Type	Listed Special-Status Wildlife Species Potentially Occurring within Phase 2	Acreage Impacted by Proposed Phase 2 Development*	Total Acres Present in Phase 2
Blue Oak Woodland	White-tailed kite American peregrine falcon Bald eagle	141.54	290.30
Potential Jurisdictional Waters, Including Wetlands			
Seasonal Wetland	Bald eagle (foraging)	0.13	0.86
Vernal Pool	None	0.07	0.08
Vernal Swale	None	0.08	0.08
Ephemeral Drainages	California red-legged frog	0.18	0.44
Intermittent Drainages	California red-legged frog	0.60	1.12
<i>Total Wetlands and Other Waters</i>		1.06	2.58
TOTAL within Phase 2		142.60	292.88

*The calculations include all land use designations except for the common areas since these areas would presumably have no impact on these habitat types.

Indirect Impacts of the Proposed Specific Plan

Just as direct impacts would occur to habitat in which listed species are found, indirect impacts would occur as well. Indirect impacts occur for a number of reasons, though primarily through increased human/wildlife interactions, habitat fragmentation, encroachment by exotic weeds, and area-wide changes in surface water flows due to development of previously undeveloped

areas. Indirect impacts to these species would occur for the same reasons and in the same manner as identified and discussed in **Impact 4.9.1** above.

Mitigation Measures

Implementation of mitigation measures **MM 4.9.1a**, **MM 4.9.1b**, **MM 4.9.1c**, and **MM 4.9.1d** (which are all applicable to Phase 2), with the Specific Plan avoidance and minimization efforts and the requirements set forth under the *Vineyards Open Space Preserve Operations and Management Plan*, would partially mitigate direct and indirect impacts to special-status listed species in Phase 2. Additional mitigation measures for vernal pool, riparian, and blue oak woodland habitats and mitigation measures for specific species listed under Impacts 4.9.1 through 4.9.8 would also reduce impacts to these species. Therefore, impacts to listed special-status species from the implementation of Phase 2 would be considered **less than significant**.

Impacts to Special-Status Plant Species

Impact 4.9.12 Implementation of Phase 2 would result in direct mortality or the loss of habitat for special-status plant species including plant species identified by the California Native Plant Society with a rating of List 1A or 1B (i.e. rare, threatened or endangered plants). This impact is considered **potentially significant**.

Special-status plant species with the potential to occur in Phase 2 include: Ahart’s paronychia, Bogg’s lake hedge hyssop, fox sedge, Henderson’s bent grass, legenere, pink creamsacs, Red Bluff dwarf rush, silky cryptantha, and slender orcutt grass. Much of the area within Phase 2 is currently vacant undeveloped land. These lands have various vegetation resource values, including the potential for special-status and sensitive plant species. Fox sedge and silky cryptantha are known to occur either within the Phase 2 or within a one-mile radius of the Phase 2. Direct and indirect impacts to natural vegetative communities within the Phase 2 would occur as a result of implementation of the Phase 2 of the proposed project. Phase 2 of the proposed project would impact 142.60 acres of undeveloped land that may be habitat for special-status plant species. **Table 4.9.12** lists the habitat/community types that may support listed special-status plant species. Direct and indirect impacts to these species would occur for the same reasons and in the same manner as identified and discussed in **Impact 4.9.2** above.

**TABLE 4.9.12
LISTED SPECIAL-STATUS PLANT SPECIES CONSIDERED IN THE IMPACT ANALYSIS ORGANIZED BY HABITAT TYPE**

Community/ Habitat Type	Special-Status Plant Species Potentially Occurring within Phase 2	Acreage Impacted by Proposed Phase 2 Development*	Total Acres Present in Phase 2
Blue Oak Woodland	Pink creamsacs – serpentine Silky cryptantha Red Bluff dwarf rush Ahart’s paronychia	141.54	290.30
Potential Jurisdictional Waters, Including Wetlands			
Seasonal Wetland	Pink creamsacs – serpentine Red Bluff dwarf rush	0.13	0.86
Vernal Pool	Bogg’s lake hedge hyssop Red Bluff dwarf rush Legenere Slender orcutt grass Ahart’s paronychia	0.07	0.08

4.9 BIOLOGICAL RESOURCES

Community/ Habitat Type	Special-Status Plant Species Potentially Occurring within Phase 2	Acreage Impacted by Proposed Phase 2 Development*	Total Acres Present in Phase 2
Vernal Swale	Bogg's lake hedge hyssop Red Bluff dwarf rush Legenere Slender orcutt grass Ahart's paronychia	0.08	0.08
Ephemeral Drainages	None	0.18	0.44
Intermittent Drainages	None	0.60	1.12
<i>Total Wetlands and Other Waters</i>		1.06	2.58
TOTAL within Phase 2		142.60	292.88

*The calculations include all land use designations except for the common areas since these areas would presumably have no impact on these habitat types.

Mitigation Measures

Implementation of mitigation measures **MM 4.9.2a** and **MM 4.9.2b** (which are also applicable to Phase 2), in addition to the Specific Plan avoidance and minimization policies, would substantially mitigate direct and indirect impacts to listed special-status plant species. Additional mitigation measures for vernal pool, riparian, and blue oak woodland habitats (i.e., **MM 4.9.2c** and **MM 4.9.2d**) would also reduce impacts to these species. Therefore, implementation of the mitigation measures listed above would reduce potential impacts to special-status plant species to a level that is considered **less than significant**.

Impacts to Migratory Birds and Raptors

Impact 4.9.13 Implementation of Phase 2 would result in direct mortality or the loss of habitat for migratory birds and raptors. This impact is considered **potentially significant**.

The area within Phase 2 currently provides suitable nesting and foraging habitat for several of migratory birds and raptors, and the proposed project has the potential to significantly impact nesting migratory birds and raptors. Direct take of active nests, eggs, or birds is prohibited by CDFG and measures must be taken to minimize disturbance. Direct and indirect impacts to these species would occur for the same reasons and in the same manner as identified for the total PSA and discussed in **Impact 4.9.3** above.

Mitigation Measures

Although the avoidance measures of the Specific Plan outline actions to avoid nesting raptors and migratory birds, they focus on vegetation removal and not the possible indirect impacts that may occur as a result of project construction, such as disturbance and possible nest abandonment or failure due to increased human presence, vibration and noise. However, with the added implementation of mitigation measures **MM 4.9.1a** through **4.9.1c** under Impact 4.9.1, Impacts to Special-Status Wildlife Species, potential impacts to migratory birds and raptors would be reduced to a level that is considered **less than significant**.

Impacts to Species of Concern and Other Non-Listed Special-Status Species

Impact 4.9.14 Implementation of the Phase 2 would result in direct and indirect loss of habitat and individuals of animal and plant species of concern and other non-listed special-status species. This impact is considered **potentially significant**.

Direct Impacts of Phase 2

Suitable habitat exists in Phase 2 for unlisted but, nonetheless, special-status species. These species are designated as a species of concern by the USFWS or the CDFG, and/or are listed in the CNPS's *Inventories of Rare and Endangered Vascular Plants of California* (2001) as List 2. For a listing of species of concern and non-listed special-status species within Phase 2 see **Table 4.9-13**.

Direct impacts to these species would occur for the same reasons and in the same manner as direct impacts to listed species as identified for the total project area and discussed in Impact 4.9.1 above. See Impact 4.9.1, as well as **Table 4.9-13** below for information on the acreages of suitable habitat that would be affected by implementation of Phase 2.

Indirect Impacts of Phase 2

As identified in **Table 4.9-13** below, suitable habitat exists within Phase 2 for non-listed, special-status species. Although few of these non-listed special-status species have been documented within and adjacent to the project area, those that have been documented are shown in **Figure 4.9-3** along with the locations in which they were observed. Indirect impacts to these species would occur for similar reasons as those identified in Impact 4.9.1.

TABLE 4.9-13
SPECIES OF CONCERN AND NON-LISTED SPECIES CONSIDERED IN THE IMPACT ANALYSIS ORGANIZED BY HABITAT TYPE

Community/ Habitat Type	Special-Status Species Potentially Occurring within Phase 2	Acreage Impacted by Proposed Phase 2 Development*	Total Acres Present within Phase 2
Blue Oak Woodland	Henderson's bent grass Cooper's hawk Sharp-shinned hawk Ferruginous hawk Northern harrier Prairie falcon Osprey Oak titmouse Lawrence's goldfinch California horned lark Loggerhead shrike Lewis' woodpecker Nuttall's woodpecker Short-eared owl Western burrowing owl Pallid bat Western red bat Hoary bat Long-eared Myotis Yuma Myotis American badger	141.54	290.30
Potential Jurisdictional Waters, Including Wetlands			

4.9 BIOLOGICAL RESOURCES

Community/ Habitat Type	Special-Status Species Potentially Occurring within Phase 2	Acreage Impacted by Proposed Phase 2 Development*	Total Acres Present within Phase 2
Seasonal Wetland	Fox sedge Northern harrier (foraging) Osprey (foraging) Tri-colored blackbird	0.13	0.86
Vernal Pool	Henderson's bent grass Western spadefoot	0.07	0.08
Vernal Swale	Henderson's bent grass Western spadefoot	0.08	0.08
Ephemeral Drainages	None	0.18	0.44
Intermittent Drainages	None	0.60	1.12
<i>Total Wetlands and Other Waters</i>		<i>1.06</i>	<i>2.58</i>
TOTAL within Phase 2		142.60	292.88

*The calculations include all land use designations except for the common areas since these areas would presumably have no impact on these habitat types.

The common areas within the Phase 2 project boundaries presumably will not be directly impacted by the proposed project and, therefore, are not included in the calculations of acreage impacted by the proposed development in **Table 4.9-13**.

Mitigation Measures

Implementation of mitigation measures **MM 4.9.4a** through **MM 4.9.4d** would substantially mitigate impacts to these species. Implementation of the avoidance and minimization provisions of the Specific Plan and mitigation measures listed above would substantially mitigate direct or indirect impacts to non-listed special-status species in Phase 2. Therefore, impacts to non-listed special-status species from implementation of Phase 2 would be **less than significant**, with the exception of blue oak woodland habitat. As noted in Impact 4.9.8, impacts to blue oak woodland habitat will be partially mitigated through tree planting, but it is likely that most of the replacement trees will not be blue oaks as they do not grow well in an urban environment. While the amount of tree canopy will likely be the same or greater than that which currently exists, there will still be a loss of blue oak woodland which is considered a **significant and unavoidable** impact.

Impacts to Potential Jurisdictional Waters

Impact 4.9.15 Implementation of Phase 2 would result in substantial adverse impacts to, and the potential loss of, jurisdictional waters of the U.S. This impact is considered **potentially significant**.

There were a total of 2.58 acres of potential jurisdictional features delineated within Phase 2 by Gallaway Consulting. Implementation of the Specific Plan, specifically development identified in the Vesting Phase 2 Tentative Map and roadway construction, could result in direct and indirect impacts to potential jurisdictional waters within Phase 2. Gallaway Consulting identified approximately 14,034 linear feet of ephemeral drainages and 16,821 linear feet of intermittent drainages within Phase 2. Under the Vesting Phase 2 Tentative Map, there would be approximately 3,076 linear feet (0.18 acre) of ephemeral drainages and 4,050 linear feet (0.60 acre) of intermittent drainages that would be directly impacted by the proposed project

through the development of a roadway system, and commercial, residential and other development outlined within the Vesting Phase 2 Tentative Map.

Table 4.9-14 below contains information regarding acreages of these potential jurisdictional features and possible direct and indirect impacts to these features due to implementation of Phase 2. **Figure 4.9-4** shows the wetlands and other waters of the U.S. that would be impacted by the proposed project. Impacts to jurisdictional features would require a 404 permit from USACE and a 401 Water Quality certification from the Regional Water Quality Control Board. Potential trenching of creeks within Phase 2 will also require a Streambed Alteration Agreement (CDFG Code §1603). USACE and CDFG have a “no net loss” policy for jurisdictional features; therefore, this impact would be considered potentially significant. Direct and indirect impacts to jurisdictional features would occur for the same reasons and in the same manner as identified for the Specific Plan project as a whole and discussed in Impact 4.9.5 above.

**TABLE 4.9-14
POTENTIAL JURISDICTIONAL FEATURES IMPACTED BY THE PROPOSED PROJECT**

Potential Jurisdictional Feature	Acreage Impacted by Proposed Phase 2 Development*	Total Acres Present in Phase 2
Seasonal Wetland	0.13	0.86
Vernal Pool	0.07	0.08
Vernal Swale	0.08	0.08
Ephemeral Drainages	0.18	0.44
Intermittent Drainages	0.60	1.12
Culverts	None	None
<i>Total Potential Jurisdictional Features</i>	1.06	2.58

Source: Galloway Consulting, Inc., 2003b; 2005b

*The calculations include all land use designations except for the common areas since these areas would presumably have no impact on these habitat types.

The common areas within the Phase 2 project boundaries will remain undeveloped open space and, as a result, will not be directly impacted by the proposed project. Therefore, these areas are not included in the calculations of acreage impacted by the proposed development shown in **Table 4.9.14**.

Mitigation Measures

Implementation of Phase 2 would result in direct and indirect impacts to jurisdictional features. Implementation of the avoidance and minimization provisions of the Specific Plan and mitigation measures **MM 4.9.5a** through **MM 4.9.5d** would substantially mitigate direct or indirect impacts. Mitigation measures outlined for Impacts 4.9.2 would further reduce potential impacts to jurisdictional features. Therefore, impacts to jurisdictional features would be **less than significant**.

Impacts to Sensitive Biological Community – Riparian Habitat

Impact 4.9.16 Implementation of Phase 2 would not result in disturbance, degradation, and removal of riparian habitat. **No impact.**

4.9 BIOLOGICAL RESOURCES

Implementation of Phase 2 would not result in disturbance, degradation, and removal of riparian habitat. According to Gallaway Consulting, there is no riparian habitat within the Phase 2 boundaries. Therefore, there would be **no impact** to riparian habitat.

Mitigation Measures

None required.

Impacts to Sensitive Biological Communities - Vernal Pools

Impact 4.9.17 Implementation of Phase 2 would result in disturbance, degradation, and removal of vernal pool habitat. This impact is considered **potentially significant**.

Direct Impacts of the Proposed Specific Plan

The project has the potential to negatively impact vernal pool species including western spadefoot toad directly and indirectly. Protocol-level surveys to determine presence/absence of listed vernal pool invertebrates concluded that federally-listed branchiopod species do not occur within the seasonal wetland and vernal pool habitat within Phase 2. Potential direct impacts include the destruction (i.e., filling) of 0.07 acre of vernal pools and 0.08 acre of vernal swales in Phase 2. Direct impacts to this habitat would occur for the same reasons and in the same manner as identified for the total Specific Plan project and discussed in Impact 4.9.1 and Impact 4.9.7 above.

Indirect Impacts of Phase 2

Indirect effects are caused by or result from a proposed action, occur later in time, and are reasonably certain to occur. Potential indirect effects from the proposed action include changes in hydrology, increased runoff from roadways, introduction of herbicides and pesticides, as well as human intrusion. Indirect impacts to this habitat would occur for the same reasons and in the same manner as identified and discussed in Impact 4.9.1 above.

Mitigation Measures

Implementation of the proposed project would result in direct and indirect impacts to vernal pool habitat. Mitigation measures already outlined above for Impacts 4.9.2 and 4.9.5 would substantially reduce potential impacts to vernal pool habitat, therefore impacts to vernal pool habitat would be **less than significant**.

Impacts to Sensitive Biological Community - Blue Oak Woodland

Impact 4.9.18 Implementation of Phase 2 would result in disturbance, degradation, and removal of blue oak woodland. This impact is considered **potentially significant**.

Direct Impacts

As addressed under Impact 4.9.8 above for the program level analysis, the CDFG has designated blue oak woodland as a "threatened" natural community in California (State Rank 3.2). The primary impact to biological resources within Phase 2 will occur as the result of habitat

fragmentation and loss of blue oak woodlands. Phase 2, as designed, will remove approximately 142 acres of blue oak woodland.

Direct impacts would be impacts to oak trees and woodland resulting from tree and land clearing associated with land development projects. Examples include grading, clearing, or otherwise modifying land for roads, driveways, building pads, landscaping, utility easements, fire-safe clearance and other development activities.

Blue oak woodlands are documented to provide breeding habitat for more wildlife species than any other habitat in California, supporting important breeding habitat for numerous amphibian, reptile, bird, and mammal species. Several local species of concern, including Lewis woodpecker, Nuttall's woodpecker, and oak titmouse all inhabit Phase 2. All of these species are cavity nesters and rely upon snags or dead limbs in oak trees for nesting.

Indirect Impacts

Indirect impacts are those impacts to native oaks and associated resources through the ongoing disturbance that results from human occupancy and use of oak woodlands. Examples include landscaping, fire clearing around structures, hiking trails, bike paths and disturbance to wildlife from people, pets and automobiles.

Mitigation Measures

Implementation of the proposed project would result in direct and indirect impacts to blue oak woodland habitat. In addition to the proposed avoidance measures of the Specific Plan, mitigation measures **MM 4.9.8a** and **MM 4.9.8b** shall also be implemented to reduce impacts to blue oak woodland. Planting of trees along roadways and new tree planting as landscaping will help reduce the impact, but not replace the loss of, blue oak woodland habitat. As such, the loss of blue oak woodland habitat is considered **significant and unavoidable**.

Loss of Habitat

Impact 4.9.19 Implementation and buildout of Phase 2 would result in the loss of foraging and breeding habitat for raptors, migratory birds, and other wildlife. This impact is considered **potentially significant**.

Wetlands, riparian corridors, as well as large areas of blue oak woodland, provide suitable breeding and foraging habitat for common and special-status bird species found within Phase 2. The area within Phase 2 also provides important habitat for non-listed special-status species, as well as common wildlife including variety of song birds, reptiles, and more. Additionally, some mammal species such as black bear, gray fox, coyote and black-tailed hare utilize these cover types as forage and denning habitat. Large trees in a variety of vegetation types within Phase 2 would also provide suitable nesting habitat for many special-status and non-listed bird species. Construction of residential units, infrastructure improvements and roadway improvements would result in the loss of large continuous areas of habitat for common wildlife species. Many of these species would be displaced due to the disruption and fragmentation of their habitat. If construction activities occur during hibernation or breeding seasons, the proposed project may result in losses to special-status and common wildlife species. Implementation of Phase 2, specifically development according to the Phase 2 Tentative Map, could result in the loss of this habitat.

4.9 BIOLOGICAL RESOURCES

Mitigation Measures

With implementation of the mitigation measures under Impacts 4.9.1 through 4.9.8, (with the exception of impacts to blue oak woodland, which are considered significant and unavoidable) impacts concerning general loss of habitat are considered **less than significant**.

Impacts to Migratory Corridors

Impact 4.9.20 Implementation of Phase 2 would not interfere substantially with the movement of native resident or migratory fish or wildlife species. This impact is considered **less than significant**.

Direct and indirect impacts to migratory corridors would occur for the same reasons and in the same manner as identified and discussed in Impact 4.9.10 above. The drainage ways within Phase 2 would provide adequate cover and vegetation to be used as a migratory corridor for common and special-status wildlife species. No specific migratory corridor that would be blocked by development in Phase 2 has been identified. This impact would be **less than significant**.

4.9.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

The PSA and the surrounding area of Shasta County as a whole should be considered for the purpose of evaluating land use conversion issues associated with biological resources on a cumulative level. In particular, this cumulative setting condition includes existing land use conditions and planned development under both the proposed Specific Plan Land Use Diagram and the current Land Use Element of the City of Anderson's General Plan, as well as existing land use conditions, and planned and proposed land uses in the general vicinity of the City.

Increased development and disturbance created by human activities would result in direct mortality, habitat loss, deterioration of habitat suitability, and avoidance of habitat. Habitats that are most likely to be affected are oak woodlands, riparian habitat, and wetlands and associated wildlife.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Impact 4.9.21 Cumulatively, development of the proposed project will result in direct mortality and loss of habitat for special-status species, wetlands, and waters of the U.S. This cumulative impact is considered **potentially significant**.

Increased development and disturbance created by human activities will result in direct mortality, habitat loss, deterioration of habitat suitability, and avoidance of habitat. Habitats most likely to be affected are oak woodlands, riparian habitat, and wetlands. The wildlife species associated with each habitat would likely be affected as well.

This project, in combination with other reasonably foreseeable projects in the area, would result in direct mortality and loss of habitat for special-status species, wetlands, and waters of the U.S. The proposed project and other projects in the region would result in adverse impacts on:

- large trees and riparian habitat that provide important habitat for a wide variety and high diversity of wildlife;
- special-status species;
- habitat used by migratory birds and raptors;
- sensitive communities such as blue oak woodland and riparian habitat; and
- jurisdictional features (wetlands and waters of the U. S.).

In addition to these direct impacts, the cumulative loss of habitat and associated wildlife could result in declines in special-status species and other regulated biological resources. Further, the proposed project would contribute to an increased human presence that would result in indirect impacts to biological resources (e.g., wildlife struck by vehicles, increased nighttime lighting, noise, pedestrians).

Wetlands and riparian habitat provide invaluable services such as: water purification through retention of nutrients, sediments, and pollutants; groundwater recharge (the movement of water from the wetland down into the underground aquifer); and stabilization of local climate conditions, particularly rainfall and temperature. The loss of wetlands and riparian forest along the Anderson and Olinda Creeks could result in declines in water quality conditions. This potential reduction to water quality could result in adverse effects to downstream aquatic resources and riparian habitat.

The mitigation measures that have been proposed in this section of the EIR for the Vineyards at Anderson project will mitigate the impacts to various biological resources to levels that are, for the most part, less than significant. In determining the need for many of those mitigation measures, the cumulative impact implications of the project on various resources (e.g., special-status species, blue oak woodland habitat, etc.) have already been considered. For example, the rarity of or endangerment to certain animal and plant species at the statewide and/or federal level has resulted in those species being listed as having special status.

Implementation of the mitigation measures proposed to reduce project-related impacts, in addition to the avoidance provisions that are designed into the project, will reduce impacts on biological resources in that project area to levels that are less than significant, with the exception of impacts to Blue Oak Woodland habitat, which is considered significant and unavoidable. Although the resource-specific impacts of this project can be reduced to levels that are less than significant, in the cumulative context the impacts of this project must be recognized as combining with the impacts of other development projects and trends in the area. The general extent of urban development along the Interstate 5 corridor, regardless of mitigation efforts made concerning individual projects, is expected to progressively take a toll on biological resources. Therefore, this project's contribution to the cumulative impact on and loss of biological resources in the area, especially impacts to Blue Oak Woodland habitat, must be considered to be **significant and unavoidable**.

Mitigation Measures

No mitigation measures are identified for this project in the context of cumulative impacts that would mitigate for potential impacts beyond those identified elsewhere in this section of the EIR.

4.9 BIOLOGICAL RESOURCES

REFERENCES

- Bauder, Ellen T. 1996. *Exotics in the Southern California Vernal Pool Ecosystem*. California Exotic Pest Plant Council 1996 Symposium Proceedings. California Exotic Pest Plant Council.
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