Chapter 6

NATURAL AND CULTURAL RESOURCES

KEY FINDINGS

- The riparian areas along the Bear River, Grasshopper Slough, and Dry Creek provide a fairly continuous corridor along their length supporting migration and transit routes for various forms of wildlife.
- There are several large portions of the study area that provide important plant and wildlife habitat, specifically the fresh emergent wetlands and Valley Oak Woodlands.
- Several special-status species could potentially exist in the study area, including the valley elderberry longhorn beetle, bank swallow, burrowing owl, and several plant species.
- Existing stationary sources of air pollutants that would restrict the location of residential or other uses currently do not exist within the study area.
- The study area is in Attainment for most State and Federal criteria pollutants, but designated Nonattainment for State ozone and PM_{10} standards.
- Cumulative development within the study area, and elsewhere within the FRAQMD, could increase other criteria pollutants over accepted thresholds.
- The California Geological Survey has not identified the potential for valuable mineral deposits in the study area. Tests for commercial-grade aggregate deposits in the study area have been inconclusive.
- The study area is highly sensitive to contain historic resources and of low sensitivity to contain prehistoric resources.
- The study area does not contain a large number of prehistoric sites or artifacts.
- While the study area is of general traditional importance to the Nisenan, no known sites occur within the study area.

Agriculture to the north of Wheatland

6.1 | INTRODUCTION

The Natural and Cultural Resources chapter addresses several conservation and open space topics including biological, agricultural, mineral, and cultural resources and air quality. Background information on these resources provides a basis for land use planning that would reduce unreasonable risks and protect public health and welfare. Information used in this chapter has been compiled from the 1980 City of Wheatland General Plan; the 1994 Yuba County General Plan, Volume I: Environmental Setting and Background; the 1996 Environmental Setting for the City of Wheatland General Plan Update; and various other local and regional policy and implementation documents. In addition, City staff and the consultants have performed research and data collection on existing conditions within the Study Area. The Natural and Cultural Resources chapter is a summary of those findings and has been divided into six sections:

- Biological Resources
- Air Quality
- Agricultural Resources
- Mineral Resources
- Water Resources
- Cultural Resources

Technical terms used in each section are defined in the Glossary at the end of this chapter.

EXISTING SETTING

The city of Wheatland is located in southern Yuba County, approximately 12 miles south of Marysville and 30 miles northeast of Sacramento. The topography in Wheatland slopes gently to the west, although the land appears essentially flat. Elevation is 87 feet above mean sea level (MSL). The climate is typical of the Sacramento Valley, being characterized by hot, dry summers and wet, mild winters. Daytime high temperatures in the summer often exceed 100 degrees, while winter low temperatures rarely drop below the mid-30s. The frost-free season is 275 days. Average annual precipitation is approximately 20 inches; the majority of this precipitation occurs between October and May.

Biological Resources

Wetlands in the area provide critical habitat for fish and wildlife, including migrating waterfowl using the Pacific Flyway. Plant communities found in or near Wheatland include non-native grassland, riparian woodland, and several varieties of Great Valley riparian forest. Each of these plant communities provides habitat for various special-status species which occur, or have the potential to occur, in the Wheatland area.

Air Quality

Wheatland is part of the Northern Sacramento Valley Air Basin (NSVAB). Air quality in the region frequently suffers from the effects of pollutants transported from metropolitan areas to the south and trapped by mountains on either side of the Valley. The area is currently in Nonattainment for State ozone and PM_{10} standards. Air quality management in Wheatland is provided by the Feather River Air Quality Management District (FRAQMD).

Agricultural Resources

The local Class II and Class IV soils contribute to agriculture's status as the most important component of the area's economy. Class II soils are designated Prime Agricultural Soils by the USDA and are typically used for field crops and orchards. Class IV soils are best suited to hay production or livestock grazing. In addition, the agricultural lands surrounding Wheatland provide open space and wildlife habitat, and preserve the landscape's aesthetic qualities.

Mineral Resources

Yuba County's mineral resources include precious metals and aggregate deposits. The Wheatland Clay Pit is the only known developed mineral resource within the General Plan Update Study Area. No other specific mineral resources have been evaluated within the Study Area. However, borings from drill holes less than one mile outside the northwestern boundary of the Study Area indicate the potential for commercial grade aggregate deposits.

Water Resources

The city is located in the Bear River watershed, between Dry Creek and Grasshopper Slough to the north, and the Bear River to the south. Surface water in the area's major drainages typically originates from snowmelt runoff produced in the Sierra Nevada and Cascades mountain ranges to the east and north, respectively. The natural hydrology of the area has been extensively altered by human land use practices, beginning during the Gold Rush era. Siltation caused by hydraulic mining in the foothills raised streambeds by as much as 70 feet in the Wheatland vicinity, causing widespread flooding. Construction of flood control levees and agricultural canals have further affected the local hydrology. Currently, water quality in the Study Area is a function of surrounding land uses. Agricultural practices contribute sediment, fertilizer, and pesticide residue, and other pollutants to the waterways. Wheatland's domestic water supply source is groundwater and is generally of high quality.

Cultural Resources

The Wheatland area is known to contain significant cultural resources. Upon the arrival of Europeans to the Sacramento Valley in the 19th Century, the area was settled by the Nisenan (Maidu) people. The Yuba County General Plan[1] states that while over 1,500 significant archaeological sites have been found in the county, only 18 percent of the ounty has been

[1] *Yuba County General Plan, Volume I: Environmental Setting and Background,* Section 15.2. May 1994

surveyed by professional archeologists. Therefore, it is likely that hundreds, if not thousands, of currently unknown cultural resources exist in the Study Area. In addition, the county likely contains many historic resources, including structures or farming implements over 50 years old.

6.2 | BIOLOGICAL RESOURCES

EXISTING SETTING

The Wheatland General Plan Update Study Area consists of the city of Wheatland and surrounding land (Figure 1-2). This analysis evaluates the existing biological resources present within the Study Area and includes a discussion of the special-status species potentially occurring and sensitive habitats within the Study Area. Information contained in this section is drawn from Foothill Associates' City of Wheatland General Plan: Biological Resources Background Report (June 2004), which is based on a review of documents pertaining to the natural resources of the Study Area; examination of aerial photography, biological resources, and vegetation maps; and field investigations.

Methodology

The available documents with information pertaining to the natural resources of the Study Area include:

- The California Natural Diversity Data Base records search (CNDDB: Sheridan and Wheatland USGS 7.5-minute Quadrangles, May 2004);
- The California Native Plant Society (CNPS) "Inventory of Rare and Endangered Vascular Plants of California" (CNPS, 2001);
- Federal Endangered and Threatened Species that may be affected by Projects in the Wheatland, Sheridan, Nicolaus, and Olivehurst USGS 7.5 minute Quadrangles (USFWS, March 1, 2004);
- Wheatland General Plan, October 6, 1980;
- *Yuba County General Plan*, December 1994;
- EIP Associates, Biological Background Report, 1996.

A field reconnaissance was conducted on May 7, 2004, to collect general plant, wildlife, and habitat data. In addition to fieldwork an aerial photograph was taken of the Study Area on May 13, 2004. The fieldwork, aerial photograph interpretation, and review of related reference materials, formed the basis of the biological analysis for this document.

Regional Setting

The city of Wheatland is located in the Sacramento Valley in the northern portion of California's Central Valley in Yuba County. The city is situated just north of the Bear River and the junction of the boundaries of Sutter, Placer and Yuba counties. This region of California is part of the Great Central Valley geographic subdivision which typically consists of long, very hot summers and moderately cold winters.[2] More specifically, the city of Wheatland is located in the Sacramento Valley subregion, the smaller, wetter, northern subregion of the Great Central Valley which extends from Red Bluff in Tehama County to the salt marshes of Suisun Slough in outhwest Solano County.[3] Plant communities predominant in the region include agriculture, open range (grassland), Oak woodland, riparian (associated with creeks and rivers), and wetlands.

Study Area

The city of Wheatland is located in the northern portion of the Sacramento Valley, on SR 65 north of the city of Lincoln and south of the city of Marysville. The Study Area, which encompasses approximately ±4,570 acres including the city of Wheatland, is located within the USGS 7.5 minute Wheatland and Sheridan quadrangles. Elevations within the plan area range from 65 feet to approximately 100 feet above mean sea level (MSL). Plant communities within the Study Area include annual grassland, cropland/orchard, valley foothill riparian, riverine, lacustrine, seasonal wetlands, and vernal pool. Land use within the Study Area varies; the predominant uses include agricultural, commercial, and residential. Natural undisturbed open space is present along creeks, sloughs, and rivers within the Study Area.

BIOLOGICAL COMMUNITIES

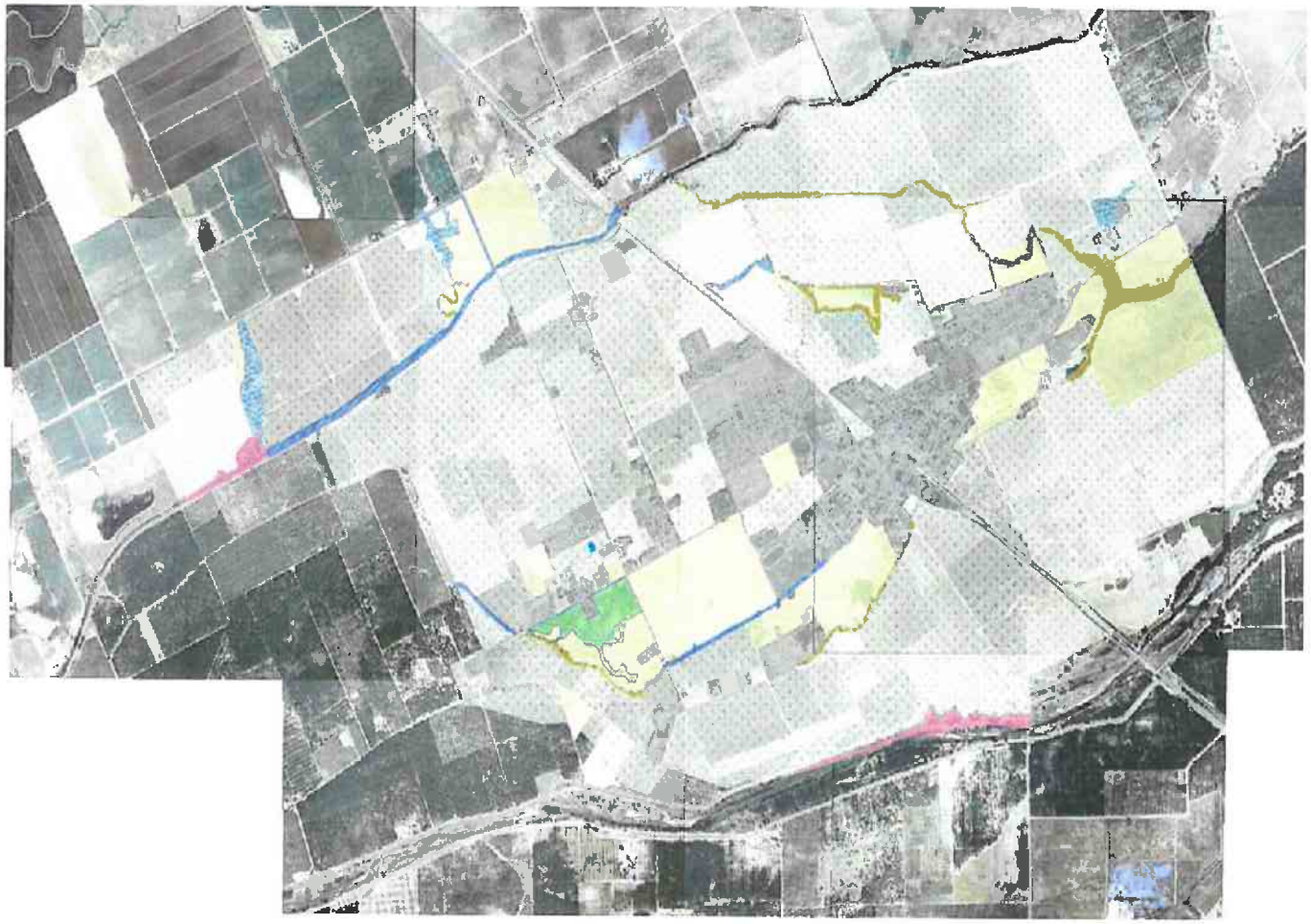
Habitat Types

The habitat communities occurring in the Study Area are discussed below as defined by the California Department of Fish and Game's Wildlife Habitat Relationship System (WHR). Common plant and wildlife species occurring, or expected to occur, within these habitats are addressed for each habitat type. Habitat communities observed within the Study Area include man-made/urbanized, annual grassland, cropland/orchard, valley foothill riparian, riverine, lacustrine, irrigated pastures, and seasonal wetlands (Figure 6-1, Habitat Communities).

Annual Grassland

Annual grassland is the most widely distributed biological community within the Study Area. For the most part, annual grassland occupies grazing pasture, areas adjacent to the riparian habitat of Dry Creek and Grasshopper Slough, and vacant lots. Annual grasslands of the Central Valley occur mostly on flat plains and gently rolling foothills.[4] Based on the dominant grasses

[2] Hickman, 1993
[3] Ibid.
[4] Mayer and Laudenslayer, 1988



WHEATLAND
GENERAL PLAN

LEGEND

- Annual Grassland
- Crop/Orchard
- Irrigated Pasture
- Manmade/Urbanized
- Valley Foothill Riparian
- Valley Oak Woodland
- Lacustrine
- Riverine
- Seasonal Wetland
- Study Area*

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Figure 6-1
Habitat Communities

Sources: Foothill Associates and Mintier & Associates, 2004

observed within the Study Area, this biological community is best classified as California Annual Grassland Series.[5]

Annual grassland habitat is characterized by annual grasses and forbs. This type of habitat generally occupies what was once a native grassland dominated by native perennial bunch grasses. However, annual grassland habitats today are composed largely of non-native annuals which have effectively displaced the native perennial species. Dominant species in the Study Area include wild oat (*Avena fatua*), rip-gut brome (*Bromus diandrus*), barley (*Hordeum sp.*), medusahead grass (*Taeniatherum caput-medusae*), red stem filaree (*Erodium cicutarium*), lupine (*Lupines sp.*), true clovers (*Trifolium* spp.), and bur clover (*Medicago polymorpha*). Widespread grassland species within the Study Area are yellow star thistle (*Centaurea solstitialis*), tarweed (*Holocarpha sp.*), bindweed (*Convolvulus arvensis*), and several species of brodiaea (*Brodiaea* spp.).

Many wildlife species use annual grassland habitat for all or part of their life cycle. Wildlife typically found in annual grassland habitat include western meadowlark (*Sturnella neglecta*), white-crowned sparrow (*Zonotrichia leucophrys*), California vole (*Microtus californicus*), black-tailed jackrabbit (*Lepus californicus*), California ground squirrel (*Spermophilis beecheyi*), and western harvest mouse (*Reithrodontomys megalotis*). Rodent populations provide foraging opportunities for mammalian predators, such as common gray fox (*Urocyon cinereoargenteus*) and coyote (*Canis latrans*), as well as avian predators such as white-tailed kite (*Elanus leucurus*), American kestrel (*Falco sparverius*), red-tailed hawk (*Buteo jamaicensis*), barn owl (*Tyto alba*) and great horned owl (*Bubo virginianus*).

Cropland/Orchard

Agricultural cropland occurs interspersed throughout the Study Area with the majority occurring on the surrounding lands of the city center. Because this habitat is intensively managed, vegetation is limited to cultivated crops, predominately almond orchards, with ruderal (weedy) vegetation along the margins. Plant species observed within this habitat type include Italian ryegrass (*Lolium multiflorum*), johnsongrass (*Sorghum halepense*), ripgut brome, and yellow star-thistle.

Orchard and row-crops generally provide low breeding habitat for wildlife species due to the high level and frequency of disturbance. However, orchard and row-crops can provide cover and foraging habitat for many species. While trees in orchards provide cover from predation for small birds and mammals, row-crops present a foraging opportunity for birds of prey given that they provide little cover for small birds and mammals. Row-crops are particularly important to migratory raptors for foraging.[6] Species expected to occur in these habitats include American crow (*Corvus brachyrhynchos*), American robin (*Turdus migratorius*), western scrub jay (*Aphelocoma californica*), yellow-billed magpie (*Pica nuttalli*), western kingbird (*Tyrannus verticalis*), red-tailed hawk, white-tailed kite, black-tailed jackrabbit, California ground squirrel, and deer mouse (*Peromyscus maniculatus*).

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[5] Sawyer and Keeler-Wolf, 1995
[6] Snyder and Snyder, 1997

Valley Oak Woodland

Valley oak woodland in the Central Valley usually merges with annual grasslands or borders agricultural land.[7] This habitat varies from savanna-like to forest-like stands with partially closed canopies, comprised mostly of winter deciduous, broad-leaved species. Valley oak (*Quercus lobata*) stands with little or no grazing tend to develop a partial shrub layer with species, such as, poison oak (*Toxicodendron diversilobum*), toyon (*Heteromeles arbutifolia*), and coffeeberry (*Rhamnus californica*). Ground cover consists of a well-developed carpet of annual grasses and forbs.[8] Based on the dominant trees observed within the Study Area, this biological community is best classified as Valley Oak Series.[9]

A very small portion of the Study Area supports valley oak woodland habitat in the northwest section near Grasshopper Slough. Oak woodlands are considered a valuable biological community for several wildlife species. This community provides food, cover, and nesting sites for resident and migratory birds as well as several species of mammals, reptiles, and amphibians. Some common species that may occur in this habitat type include acorn woodpecker (*Melanerpes formicivorus*), California quail (*Callipepla californica*), red-tailed hawk, oak titmouse (*Parus inornatus*), screech owl (*Otus asio*), and gray squirrel (*Sciurus carolinesis*).

Valley-Foothill Riparian

Valley-foothill riparian occurs along portions of the Bear River, Dry Creek, Grasshopper Slough, and various irrigation canal systems throughout the Study Area. Typically, valley-foothill riparian habitat is found in valleys bordered by sloping alluvial fans, terraces, and lower foothills.[10] Valley-foothill riparian vegetation varies from a two-layered canopy of trees and herbs (riparian woodland) to a multi-layered canopy of canopy trees, subcanopy trees, shrubs, and herbs (riparian forest). Based on the dominant trees observed within the Study Area, this biological community is best classified as Fremont Cottonwood Series.[11]

Within the Study Area the valley-foothill riparian community is made up of willows (*Salix* spp.), sycamore (*Platanus racemosa*), cottonwood (*Populus fremontii*), valley oak, box elder (*Acer negundo*), and Oregon ash (*Fraxinus latifolia*). Understory shrub layer plants include wild grape (*Vitis californica*), wild rose (*Rosa californica*), blue elderberry (*Sambucus mexicana*), poison oak, and willows (*Salix spp*). The herbaceous layer consists of sedges, rushes, and grasses.

Riparian habitats are unique and ecologically important habitats that support an exceptionally high diversity of plants and wildlife. This community provides an important source of food, water, and protection for wildlife, as well as breeding and nesting habitat for both resident and migratory bird species. Species that may occur within this habitat type include red-shouldered hawk, great horned owl, northern flicker (*Colaptes auratus*), black phoebe (*Sayornis nigricans*), marsh wren (*Cistothorus palustris*) and common gray fox. Amphibian and reptile species such

[7] Mayer and Laudenslayer, 1988
[8] Ibid.
[9] Sawyer and Keeler-Wolf, 1995
[10] Mayer and Laudenslayer, 1988
[11] Sawyer and Keeler-Wolf, 1995

as western toad (*Bufo boreas*) and common garter snake (*Thamnophis sirtalis*) may occur in areas directly adjacent to standing water within the valley-foothill riparian community.

Riverine

Riverine habitats can occur in association with many terrestrial habitats and are often contiguous to lacustrine.[12] The riverine habitat for this analysis includes the aquatic habitat of Dry Creek, Grasshopper Slough, and the Bear River. These natural water courses have well-defined beds and banks and in some areas adjacent wetlands occur. The aforementioned valley-foothill riparian habitat is used to describe the adjacent terrestrial habitat that is interdependent with the riverine systems within the Study Area.

The open water zones of rivers provide resting and escape cover for many species of waterfowl. Gulls, terns, osprey (*Pandion haliaetus*) and bald eagle (*Haliaetus leucocephalus*) forage in open water. Near shore waters provide food for waterfowl, herons, and shorebirds. Many species of insectivorous birds (swifts, flycatchers, swallows) forage for their prey over water. Some of the more common mammals that may occur in riverine habitat include river otter (*Lutra canadensis*), muskrat (*Ondatra ziebethicus*), and beaver (*Castor canadensis*).

Lacustrine

Lacustrine habitat is generally constructed for agricultural purposes (stock ponds for livestock) throughout the Study Area. Lacustrine habitats are inland depression or dammed riverine channels containing standing water. They may vary from small ponds to very large bodies of water.[13] Typical lacustrine habitats can be divided into two types, permanent and intermittent. Permanent lacustrine habitats include perennial flooded lakes and reservoirs, while intermittent lacustrine habitats include lakes, and ponds (including vernal pools) that are periodically flooded.

The plants and animals found in lacustrine habitat can vary with water depth and vegetation composition. A blanket of vegetation on the surface of water provides suitable habitat for micro-organisms, minute crustaceans, and snails and mosquitoes. Submerged plants such as algae and pondweeds serve as supports for smaller algae and as cover for swarms of minute aquatic animals. As sedimentation and accumulation of organic matter increases toward the shore, floating rooted aquatics such as water lilies and smartweeds often appear. Floating plants offer food and support for numerous herbivorous animals that feed both on phytoplankton and the floating plants.[14]

Perennial lacustrine habitats are used by water birds, such as mallards (*Anas platyrhynchos*), cinnamon teal (*Anas cyanoptera*), killdeer (*Charadrius vociferus*), herons and egrets for resting and foraging grounds. Additionally, lakes and ponds that support fish provide optimal foraging

[12] Mayer and Laudenslayer, 1988
[13] Mayer and Laudenslayer, 1988
[14] Ibid.

habitat for osprey and bald eagle as mentioned in the riverine discussion above. Intermittent lacustrine habitat, such as vernal pool, is further discussed below.

Irrigated Pasture

Irrigated pasture is typically associated with livestock grazing. The vegetation within pastures would include a mix of perennial grasses and legumes. The height of the vegetation can vary, according to season and livestock stocking levels, from a few inches to two or more feet. Common grassland and forbs species observed in this habitat include perennial ryegrass (*Lolium perenne*), Mediterranean barley (*Hordeum marinum*), and narrowleaf plantain (*Plantago lanceolata*), soft brome (*Bromus hordeaceus*), butterweed (*Senecio sp.*), filaree (*Erodium cicutarium* and *E. botrys*), vetch (*Vicia sp.*), California poppy (*Eschscholzia californica*), common owls clover (*Triphysaria eriantha*), and rose clover (*Trifolium hirtum*). Although several areas within the Study Area may be active irrigated pasture, one area was identified through field investigation.

Irrigated pastures support foraging habitat for a variety of avian and small mammal species and the wetland areas interspersed throughout this habitat likely support a variety of wildlife species. Species expected to occur within this habitat include great egret (*Casmerodius albus*), great blue heron (*Ardea herodias*), red-winged blackbird (*Agelaius phoeniceus*), bullfrog (*Rana catesbeiana*), and Pacific chorus frog (*Pseudacris regilla*)

Seasonal Wetland

Seasonal wetland habitat is typically associated with shallow drainages and swales (riverine features) or depressions, that inundate long enough to support hydric soils and hydrophytic vegetation such as vernal pools. Riverine seasonal wetlands are characterized by the seasonal flow of water induced by the onset of the rainy season and are typically vegetated with hydrophtic species. These features can be supported by ground water and surface water sources, and, therefore, are typically more expansive than other seasonal wetlands, often flowing linearly across the landscape. A depressional seasonal wetland is characterized by shallow land depressions that are inundated or saturated by water often enough to support hydrophytic plant species.

Vernal pools are a unique type of seasonal wetland located within annual grassland habitats. Vernal pools are shallow depressions underlain by an impermeable layer, such as clay hardpan or bedrock, that fills with water seasonally, providing habitat for various plant and animal species. Vernal pools occur within the Study Area where the topography of the landscape is gently sloping to nearly level. Annual herbs and grasses adapted to the unique seasonal conditions dominate vernal pool communities. Dominant plant species typically found within the vernal pools include coyote thistle (*Eryngium vaseyi*), annual hairgrass (*Deschampsia danthonioides*), popcorn-flower (*Plagiobothrys* sp.), spikerush (*Eleocharis macrostachya*), and western manna grass (*Glyceria occidentalis*).

Seasonal wetlands including vernal pools are used by resident and migratory animal species. The Central Valley is part of the pacific flyway, a migratory route for waterfowl species

extending from Alaska to South America. In the spring, migrating waterfowl are often observed foraging and resting in Central Valley seasonal wetlands. Resident invertebrates and crustaceans, as well as the roots and leaves of vernal pool plants, provide an important seasonal food source for waterfowl and other non-migratory bird species. In addition, vernal pool habitat is vital to the life cycle of special-status crustaceans such as vernal pool fairy shrimp (*Branchinecta lynchi*).

SPECIAL-STATUS SPECIES

Special-status species are plant and animal species 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 Federal Endangered Species acts;
- Listed or proposed for listing under the State Endangered Species acts;
- Protected under other regulations (e.g. Migratory Bird Treaty Act);
- CDFG Species of Special Concern;
- Listed as species of concern by CNPS or USFWS; or
- Receive consideration during environmental review under CEQA.

Special-status species considered for this analysis are based on field survey results, review of the CNDDB occurrence records of species, review of the USFWS lists for special-status species occurring in the region, and CNPS literature (Table 6-1). The locations of special-status species occurrences in the project vicinity are shown in Figure 6-2, which is from a search of the CNDDB. Table 6-1 includes the common name and scientific name for each species, regulatory status (Federal, State, local, CNPS), habitat descriptions, and potential for occurrence within the Study Area. The following set of criteria has been used to determine each species potential for occurrence within the Study Area:

- **Present**: Species known to occur within the Study Area, based on CNDDB records, and/or was observed to occur during the field survey(s).
- **High**: Species known to occur on or near the Study Area (based on CNDDB records within 8 km or 5 mi, and/or based on professional expertise specific to the area or species) and there is suitable habitat within the Study Area.

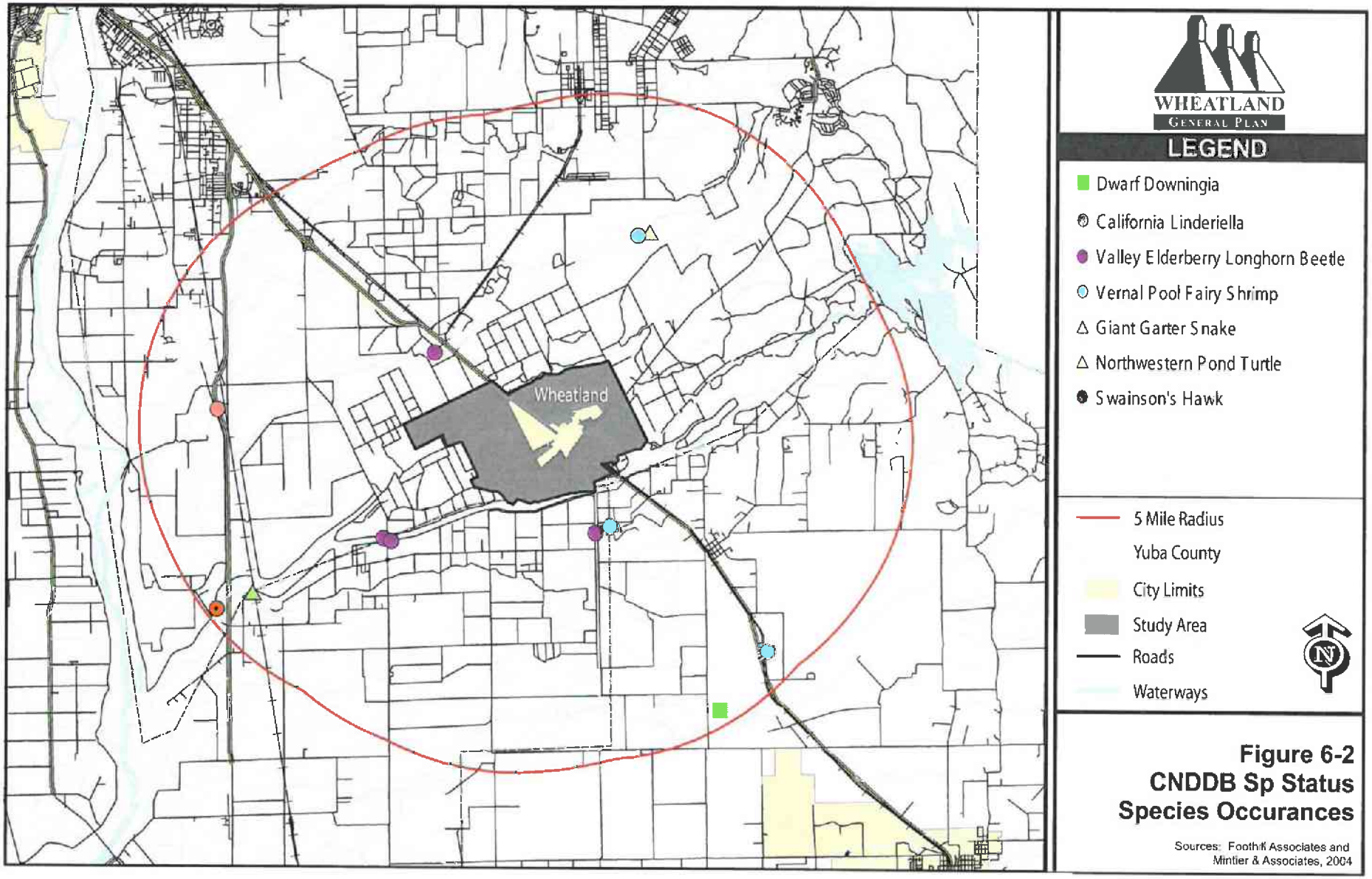

Figure 6-2
CNDDB Sp Status
Species Occurances

Sources: Foothill Associates and Mintier & Associates, 2004

- **Low**: Species known to occur in the vicinity of the Study Area and there is marginal habitat, or species are not known to occur in the vicinity of the Study Area however there is suitable habitat.

- **No**: Species are not known to occur on or in the vicinity of the Study Area and there is no suitable habitat for the species, or species were surveyed for during the appropriate season with negative results for the species occurrence.

Species that are unlikely to occur within the Study Area due to lack of habitat or geographic location, will not be further discussed in the document. Only those species that are known to be present or that have a high or low potential for occurrence within the Study Area will be discussed further following Table 6-1.

TABLE 6-1
LISTED AND SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING IN THE STUDY AREA

Common Name	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Potential for Occurrence
Plants			
AHART'S DRAWF RUSH *Juncus leiospermus var. ahartii*	FSC; --; --; 1B	Vernal pools and swales in agricultural lands and valley grasslands, usually in sparsely vegetated microhabitats such as gopher mounds. Elevations range from 100 to 300 feet.	**Low**
BRANDEGEE'S CLARKIA *Clarkia biloba ssp brandegeeae*	--; --; SLC; 1B	Chaparral, cismontane woodland, often in roadcuts. Elevations range from 900–3,000 feet.	**No**; Study Area is located outside of the known range of this species.
BUTTE FRITILLARY *Fritillaria eastwoodiae*	FSC; --; --; 3	Openings in lower mixed-conifer forest, especially forest-shrub ecotones, and semishade in chaparral and foothill woodland, including serpentine-related soils. Elevations range from 1,000 to 4,000 ft.	**No**; Study Area is located outside of the known range of this species.
CALIFORNIA PITCHERPLANT *Darlingtonia californica*	--; --; --; 4	Endemic to the northern Sierra Nevada and Coast Ranges of southwestern Oregon and northern California, including the Klamath, Siskiyou, Salmon, and Trinity Mountains. In the Sierra Nevada, it occurs as far south as Nevada County.	**No**; Study Area is located outside of the known range of this species.

TABLE 6-1 LISTED AND SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING IN THE STUDY AREA			
Common Name	**Regulatory Status (Federal; State; Local; CNPS)**	**Habitat Requirements**	**Potential for Occurrence**
CLUSTERED LADY'S-SLIPPER *Cypripedium fasciculatum*	FSC; --; --; 4	Populations are found in areas with 60 to 100 percent shade provided by plant communities, including mixed evergreen, mixed conifer, Douglas-fir, pine tree, and black oak forest. Elevations range from 1,000 to 5,300 feet.	**No**; Study Area is located outside of the known range of this species.
DWARF DOWNINGIA *Downingia pusilla*	--; --; --; 2	Northern claypan vernal pools in the central Sacramento Valley, northern hardpan vernal pools in the Sierra Nevada foothills, and vernal pools of the interior Coast Range valleys in Napa and Sonoma Counties.	**High**
HARTWEG'S GOLDEN SUNBURST *Pseudobahia bahiifolia*	FE; CE; --; 1B	Cismontane woodland, valley and foothill grassland with clay soils. Elevations range from 50 to 500 feet.	**Low**
LAYNE'S BUTTERWEED *Senecio layneae*	FT; CR; --; 1B	Chaparral, cismontane woodland on serpentine or gabbroic soils in rocky areas. Elevations range from 650 to 3,300 feet.	**No**; Study Area is located outside of the known range of this species.
LEGENERE *Legenere limosa*	FSC; --; --; 1B	Found in vernal pool habitats.	**Low**
TEHAMA NAVARRETIA *Navarretia heterandra*	--; --; --; 4	Valley and foothill grassland (mesic), vernal pools; elevations range from 100 to 300 feet.	**Low**
QUINCY LUPINE *Lupinus dalesiae*	FSC; --; --; 1B	Open, dry, mixed-conifer forests, often on light-colored fractured shale soils and disturbed areas. Elevations range from 2,900 to 6, 300 feet. elevation.	**No**; Study Area is located outside of the known range of this species.
Wildlife			
Invertebrates			
CALIFORNIA LINDERIELLA FARIY SHRIMP *Linderiella occidentalis*	FSC; --; --; --	Vernal pools, swales, and ephemeral freshwater habitat.	**High**
CONSERVANCY FAIRY SHRIMP *Branchinecta conservatio*	FE; --; --; --	Vernal pools, swales, and ephemeral freshwater habitat.	**High**

TABLE 6-1
LISTED AND SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING IN THE STUDY AREA

Common Name	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Potential for Occurrence
VALLEY ELDERBERRY LONGHORN BEETLE *Desmocerus californicus dimorphus*	FT; --; --; --	Associated with host plant, elderberry trees (Sambucus spp.) in California's Central Valley during its entire life cycle.	**High**
VERNAL POOL FAIRY SHRIMP *Branchinecta lynchi*	FT; --; --; --	Vernal pools, swales, and ephemeral freshwater habitat.	**High**
VERNAL POOL TADPOLE SHRIMP *Lepidurus packardi*	FE; --; --; --	Vernal pools, swales, and ephemeral freshwater habitat.	**High**
Amphibians/Reptiles			
CALIFORNIA RED-LEGGED FROG *Rana aurora draytonii*	FT; CSC; --; --	Requires a permanent water source and is typically found along quiet slow moving streams, ponds, or marsh communities with emergent vegetation.	**Low**
GIANT GARTER SNAKE *Thamnophis gigas*	FT; CT; --; --	Agricultural wetlands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands.	**High**
NORTHWESTERN POND TURTLE *Clemmys marmorata marmorata*	FSC; CSC; --; --	Occurs from the vicinity of the American River northward in permanent or nearly permanent ponds and streams, in a wide variety of habitats including valley, foothill, and montane regions.	**High**
WESTERN SPADEFOOT TOAD *Spea hammondii*	FSC; CSC; --; --	Grassland habitats associated with long-lasting rain pools including, large vernal pools, or other seasonal wetlands. These habitats are essential for breeding and laying eggs.	**Low**
Fish			
CENTRAL VALLEY FALL/LATE FALL-RUN CHINOOK SALMON *Oncorhynchus tshawytscha*	FC; CSC; --; --	Sacramento and San Joaquin Rivers and their tributaries, such as the Bear River.	**Low**
DELTA SMELT *Hypomesus transpacificus*	FT; ST; --; --	Middle and lower Delta region.	**Low**
GREEN STURGEION *Acipenser medirostris*	--; CSC; --; --	Found in large rivers from San Francisco Bay northward.	**No;** the Study Area is located outside of the known range for green sturgeon.

TABLE 6-1
LISTED AND SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING IN THE STUDY AREA

Common Name	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Potential for Occurrence
LONGFIN SMELT *Spirinchus thaleichthys*	FSC; CSC; --; --	Found in major bays and estuaries from San Francisco Bay northward.	**No;** there is no suitable habitat within the Study Area for longfin smelt.
PACIFIC LAMPREY *Lampetra tridentata*	FSC; --; --; --	Spawning adults are found in gravel riffles and runs of clear coastal streams; feeding adults usually in the ocean.	**No;** there is no suitable habitat within the Study Area for pacific lamprey.
SACRAMENTO SPLITTAIL *Pogonichthys macrolepidotus*	FSC; CSC;--; --	Delta region and lower Sacramento and San Joaquin Rivers.	**Low**
Birds			
AMERICAN BITTERN *Botaurus lentiginosus*	FSC; --; --; --	Marshes and reedy lakes. Seldom seen in trees.	**Low**
ALEUTIAN CANADA GOOSE *Branta canadensis leucopareia*	FD (FSC); CSC; -- (Wintering)	Winter resident of agricultural lands.	**Low**
BALD EAGLE *Haliaeetus leucocephalus*	FPD; CE (fully protected); --; -- (Nesting and Wintering)	Nesting restricted to the mountainous communities near permanent water sources. Winters throughout most of California at lakes, reservoirs, river systems, and coastal wetlands.	**Low**
BANK SWALLOW *Riparia riparia*	FSC; CT; --; -- (Nesting)	Restricted to riparian areas with vertical cliffs and banks with fine or sandy soils.	**Low**
BLACK SWIFT *Cypseloides niger*	FSC; CSC; --; -- (Nesting)	Areas with rocky cliffs available for nesting, varying from ocean cliffs to mountain ledges, at elevations from sea level to 11,000 feet.	**No;** the Study Area is outside the known nesting range of this species.
CALIFORNIA THRASHER *Toxostoma redivivum*	FSC; CSC; --; --	Endemic to coastal and foothill areas of California, in dense chaparral and conifer forests.	**No;** although this species may occur along the foothills, it is unlikely that California thrasher would occur within the Study Area.
FERRUGINOUS HAWK *Buteo regalis*	FSC; CSC; --; -- (Wintering)	A winter resident of open habitats in California including grasslands, and brushy forests.	**High**
GREATER SANDHILL CRANE *Grus canadensis tabida*	--; CT & Fully protected; --; -- (Nesting & Wintering)	Nests in wet meadows interspersed with emergent marsh habitat. Winters in agricultural croplands and irrigated pastures.	**Low**

TABLE 6-1 LISTED AND SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING IN THE STUDY AREA			
Common Name	**Regulatory Status (Federal; State; Local; CNPS)**	**Habitat Requirements**	**Potential for Occurrence**
LAWRENCE'S GOLDFINCH *Carduelis lawrencei*	FSC; --; --; -- (Nesting)	Nests in open oak or other arid woodland and chaparral habitats near water. Nest built in a tightly woven cup, in a low tree or bush.	**Low**
LEWIS' WOODPECKER *Melanerpes lewis*	FSC; --; --; -- (Nesting)	Nests in cavities in dead or live snags of trees. Breeds along eastern slopes of the Coast Ranges, and in the Sierra Nevada.	**No;** although wintering habitat occurs within the Study Area, this specie's known nesting range is in the Coast Range and Sierra Nevada mountain ranges.
LITTLE WILLOW FLYCATCHER *Empidonax traillii brewsteri*	--; CE; --; -- (Nesting)	Nests in shrubby riparian vegetation with saturated soil conditions or near a water source.	**No;** the known nesting range of this species occurs in the Sierra Nevada.
LOGGERHEAD SHRIKE *Lanius ludovicianus*	FSC; CSC; --; -- (Nesting)	Nests on stable branches in densely foliaged shrubs or trees. Typically found in open habitats with scattered shrubs, trees, posts, utility lines or other perching sites.	**High**
LONG-BILLED CURLEW *Numenius americanus*	FSC; CSC; --; -- (Nesting)	Frequent wet meadow habitats, large coastal estuaries, and upland herbaceous areas including croplands. Nest built in grass-lined depressions on open ground.	**Low**
MOUNTAIN PLOVER *Charadrius montanus*	FPT (FCS); CSC; --; -- (Wintering)	Open and flat valley grasslands and short-grass prairies.	**Low**
NUTTALL'S WOODPECKER *Picoides nuttallii*	--; --; SLC; --	Permanent resident of low elevation riparian deciduous and oak woodland habitats.	**High**
OAK TITMOUSE *Baeolophus inornatus*	--; --; SLC; --	Oak and pine-oak woodland, chaparral, and oak-riparian communities.	**Low**
RUFOUS HUMMINGBIRD *Selasphorus rufus*	FSC; --; --; --; -- (Nesting)	Nests in berry brambles, shrubs and conifers, within wooded habitats. Known to breed in Oregon and Washington and the trinity Mts., of Trinity and Humboldt counties.	**No;** Study Area is outside the known range of this species.
SWAINSON'S HAWK *Buteo Swainsoni*	FSC; CT; -- (Nesting)	Nests in isolated trees or riparian woodlands adjacent to suitable foraging habitat (agricultural fields, grasslands, etc.).	**High**

TABLE 6-1 LISTED AND SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING IN THE STUDY AREA			
Common Name	**Regulatory Status (Federal; State; Local; CNPS)**	**Habitat Requirements**	**Potential for Occurrence**
TRI-COLORED BLACKBIRD *Agelaius tricolor*	FSC; CSC; --; -- (Nesting colony)	Nests in dense blackberry, cattails, tules, willows, or wild rose within emergent wetlands throughout the Central Valley and the foothills surrounding the valley.	**Low**
VAUX'S SWIFT *Chaetura vauxi*	FSC; CSC; --; -- (Nesting)	Nests within large hollow trees and snags in coniferous forest habitats.	**No**; Study Area is located outside of the known range of this species.
WESTERN BURROWING OWL *Athene cunicularia hypugaea*	FSC; CSC; --; -- (Burrow Sites)	Nests in burrows in the ground, often in old ground squirrel burrows or badger, within open valley and foothill grassland and desert habitat.	**High**
WESTERN YELLOW-BILLED CUCKOO *Coccyzus americanus occidentalis*	FC; CE; --; -- (Nesting)	Nests in valley and foothill riparian communities typically within mature cottonwood trees with dense canopy.	**Low**
WHITE-FACED IBIS *Plegadis chihi*	FSC; CSC; --; -- (Rookery)	Inhabits large freshwater emergent wetlands. Nesting colonies typically occur hidden within dense stands of vegetation such as reeds or willows.	**No;** although this species could occur during migration, the Study Area is outside of the known range.
WHITE-TAILED KITE *Elanus leucurus*	FSC; Fully protected; --; -- (Nesting)	Inhabits herbaceous lowlands with variable tree growth. Nests in substantial groves of dense trees, typically adjacent to agricultural land or grassland habitats.	**High**
OTHER RAPTORS (HAWKS, OWLS AND VULTURES)	MBTA and §3503.5 Department of Fish and Game Code	Nests in a variety of communities including cismontane woodland, mixed coniferous forest, chaparral, montane meadow, riparian, and urban communities.	**High**
Mammals			
FRINGED MYOTIS BAT *Myotis thysanodes*	FSC; --; --; --	Chiefly inhabits coastal and montane forests and mountain meadows. Forms nursery colonies in caves, mines or buildings.	**Low**